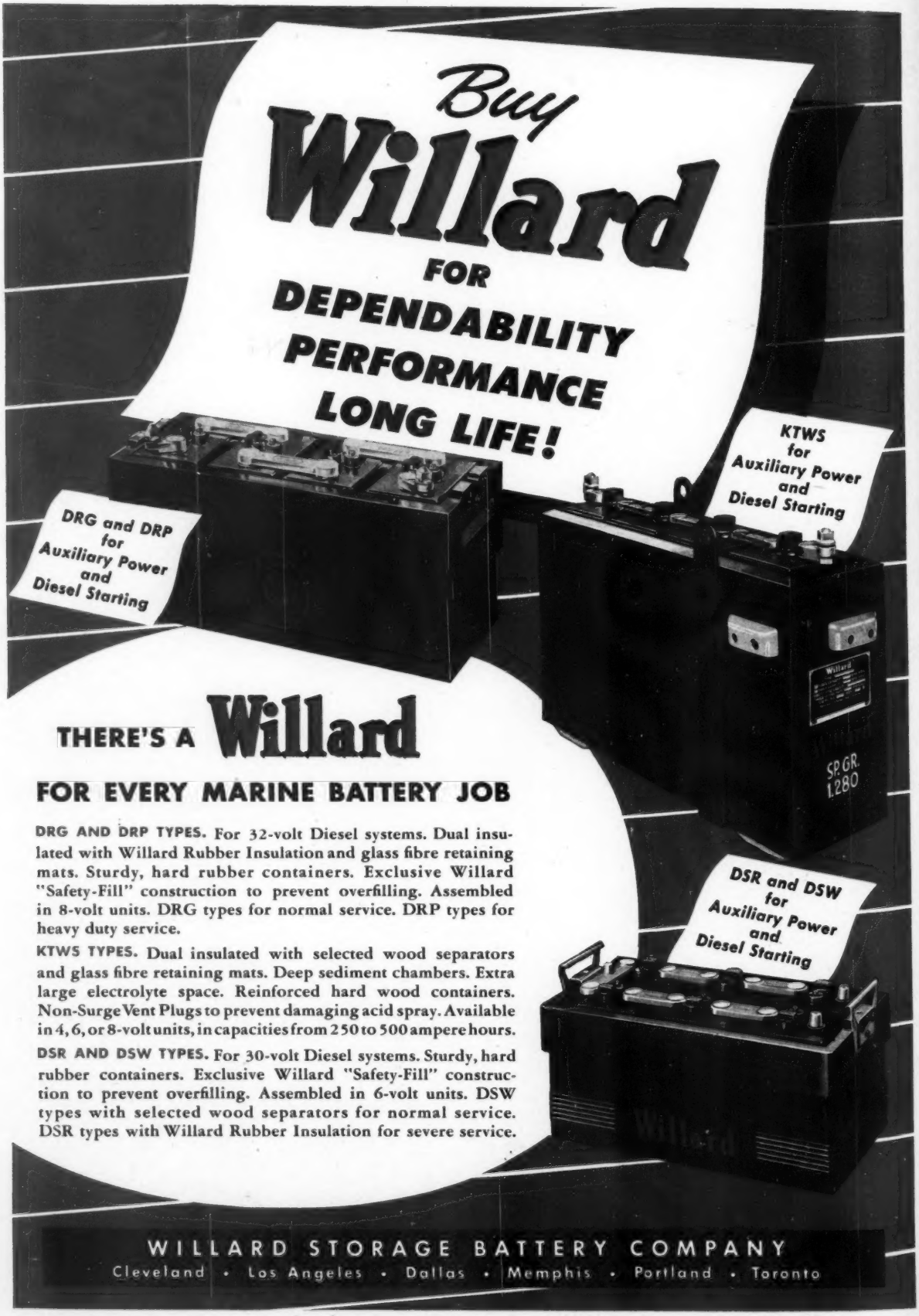
ATLANTIC FISHERMAN

JUNE
1949



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DRG AND DRP TYPES. For 32-volt Diesel systems. Dual insulated with Willard Rubber Insulation and glass fibre retaining mats. Sturdy, hard rubber containers. Exclusive Willard "Safety-Fill" construction to prevent overfilling. Assembled in 8-volt units. DRG types for normal service. DRP types for heavy duty service.

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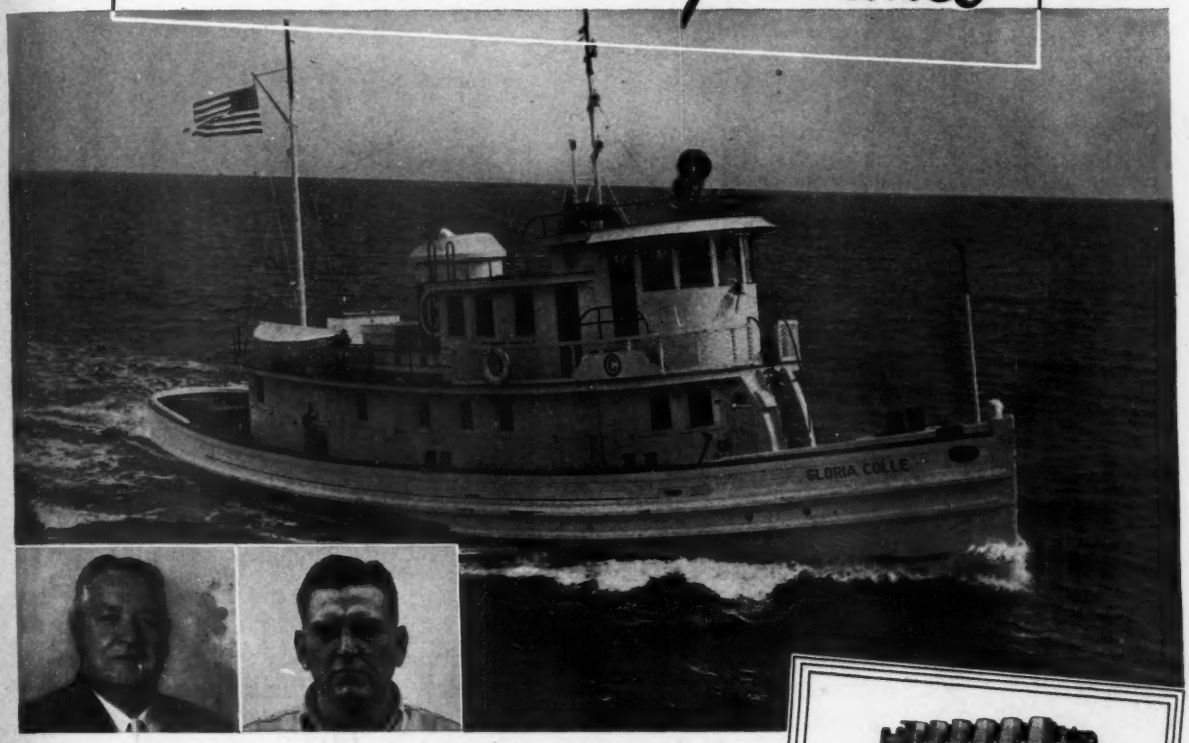

Herman H. Colle and John H. Colle, owners of the Colle Towing Company, Inc., New Orleans, have long been engaged in the operation of tugboats handling pulpwood and petroleum products in intracoastal and river service.

FOR THE GLORIA COLLE, NEW ENTERPRISE POWER—and plenty of it!

One thousand horsepower may seem like a lot for a vessel just 92′ in length, 21′ 6″ beam. But the "Gloria Colle", recently repowered with an Enterprise Turbocharged DMQ-36 Diesel, packs this power with ease—has provided her owners with splendid performance records, and has established herself as an outstanding addition in the intracoastal canal and river tugboat fleets.

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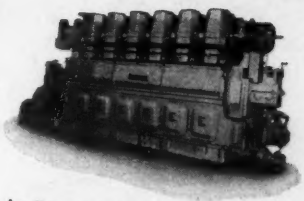

An Enterprise *Turbocharged* Model DMQ-36, rated 1000 HP at 300 RPM, provides the "Gloria Colle" with plenty of reliable power in small space at low operating cost per horsepower output. The many other money-saving advantages of Enterprise *Turbocharged* engines warrant your full investigation, whether your plans call for repowering old vessels or providing power to a new craft. For the best buy in Diesels today, buy Enterprise.

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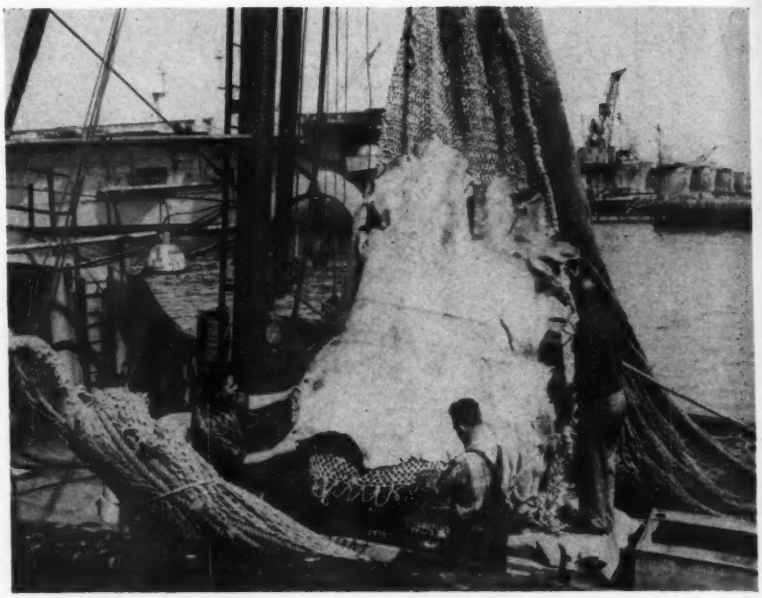
In Net Chafing Gear



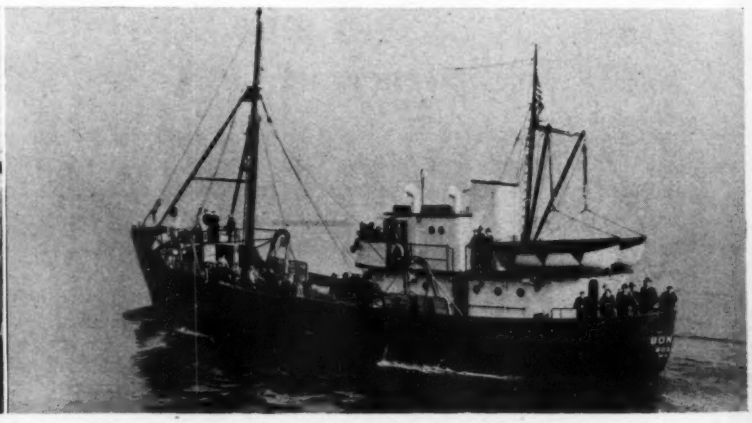
Wesco Cod-End Protector aboard the Boston Trawler "Bonnie"

Proven in use on hundreds of boats during the past 3 years, the Wesco cod-end protector has given from 8 to 14 months service, outlasting 20 to 25 of the salted green hides.

Because of a special tanning process which removes all bacteria, usual deterioration is eliminated. The Wesco protector can be left on the net indefinitely. No longer is it necessary to carry a barrel of bluestone to preserve the hide when not in use. This means a big saving in handling time.

The long life of the Wesco protector eliminates frequent loss of fish because of hide failure.

The Wesco protector is tough, pliable and clean. It comes with uniform hole punchings, and is available in sizes to fit the nets of any dragger or trawler.



The 110′ trawler "Bonnie", Capt. John Cahill, owned by Genoa Fisheries, Boston. At left, the Company's port captain, Charles Tribuna. The high-liner "Bonnie" is one of the larger and newer trawlers of the fleet, and has used Wesco Cod-End Protectors since she started fishing.

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Joint Authority Needed To Control Lamprey

The problem of controlling the sea lamprey on the Great Lakes has heightened the need for a joint regulatory body for this area. Recent hearings before the House Merchant Marine & Fisheries Committee in Washington on the subject of getting additional Federal funds to fight the lamprey menace brought out the desirability of cooperative action in solving the various problems that face the Great Lakes fisheries.

The lamprey investigation program was started in 1946 with the formation of a committee representing all Great Lakes States and the Province of Ontario. Michigan, Wisconsin, and Ontario allotted funds for the lamprey study, and although Congress authorized a small appropriation at that time it was not until last year that funds were available for a full time Federal investigator for the sea lamprey project. However, by diverting the Fish & Wildlife Service staff from regular Great Lakes fishery work, it was possible to start investigation in 1947.

In 1938, the Council of State Governments called meetings of State, Federal and Provincial officials to study the problem of regulating the Great Lakes. As a result of these meetings, the U. S. and Canada signed an agreement in 1940, establishing the International Board of Inquiry which made an exhaustive study of the Great Lakes fisheries. In 1942 the Board submitted its report and recommended joint action by the two countries. Following this, with the approval of the State and Interior Departments, an International Convention for the development, protection and conservation of the Great Lakes fisheries, for a period of 10 years, was drawn up by the U. S. and Canada. The Convention was signed at Washington in 1946, and subsequently was ratified by the Canadian Government. However, the treaty still awaits ratification by the U. S. Senate.

Proponents of the Great Lakes Treaty claim it is a model plan for International Fisheries Cooperation. It provides for an International Commission to be composed of a United States section and a Canadian section, and for the appointment of an advisory committee for each Lake.

There has been some opposition to the Treaty on the grounds that it would centralize Government authority over control of the Lakes, encroaching upon States rights. It also has been pointed out that it would give equal power to Canada in formulating regulations, despite the fact that the bulk of the Great Lakes catch is harvested by American fishermen.

During the course of years, there have been frequent controversies regarding fishing regulations between two or more States bordering on the same Lake. Many of these difficulties have been of minor importance, and by and large the States have cooperated very well on problems relative to fish management. Nevertheless, uniformity of regulations would be desirable in promoting harmony among fishermen, and in assuring sound development and conservation of the Lakes fisheries.

To be fully effective, the lamprey eradication program needs the cooperative endeavor of every State involved, as well as the Province of Ontario.

The Great Lakes area is the only one where States have not formed an interstate compact to act as a clearing house for promoting the interests of the commercial fisheries. The Atlantic States Marine Fisheries Commission has been successful in dealing with problems on the Atlantic Coast, as has its companion organization on the Pacific Coast. With the signing by the President last month of the bill giving Congressional approval to the Gulf States Fisheries Compact, it is expected that similar cooperation will be fostered in that section.

In view of the fact that it has not yet been possible to reach an agreement on the merits of an International Treaty, it might be advisable to set up a cooperative compact among the Great Lakes States. Such an organization would be able at least to coordinate the fishery activities of the individual States, and provide a legislative voice for the Great Lakes fisheries. Ontario, which is the only Canadian Province involved, could be invited to be a member, and thus participate in discussions, even though it could not enter into any regulatory statute.

In the event that the International Treaty is ratified, the State group could continue to function as an adjunct to the International Commission, and would be able to offer valuable guidance to Commission members.

ATLANTIC FISHERMAN

REGISTERED U. S. PATENT OFFICE

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SPECIAL FEATURES

NEWS REPORTS

REGULAR DEPARTMENTS

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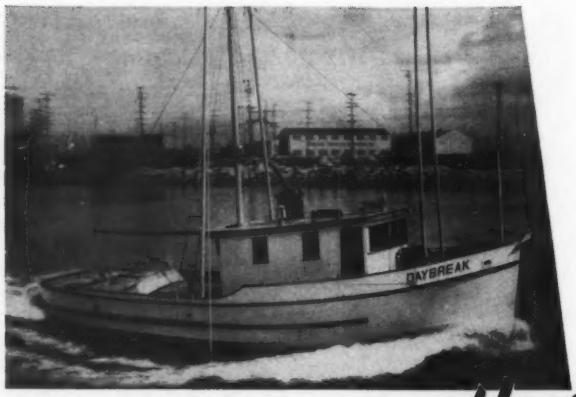

The Pacific troller "Daybreak" powered with a Cummins diesel marine engine through a Twin Disc MG-165 Marine Gear.

The Atlantic dragger "Carolyn & Gary" powered with a Buda diesel marine engine through a Twin Disc MG-201 Marine Gear. A Twin Disc Front Power Take-off also transmits engine power to the winch.

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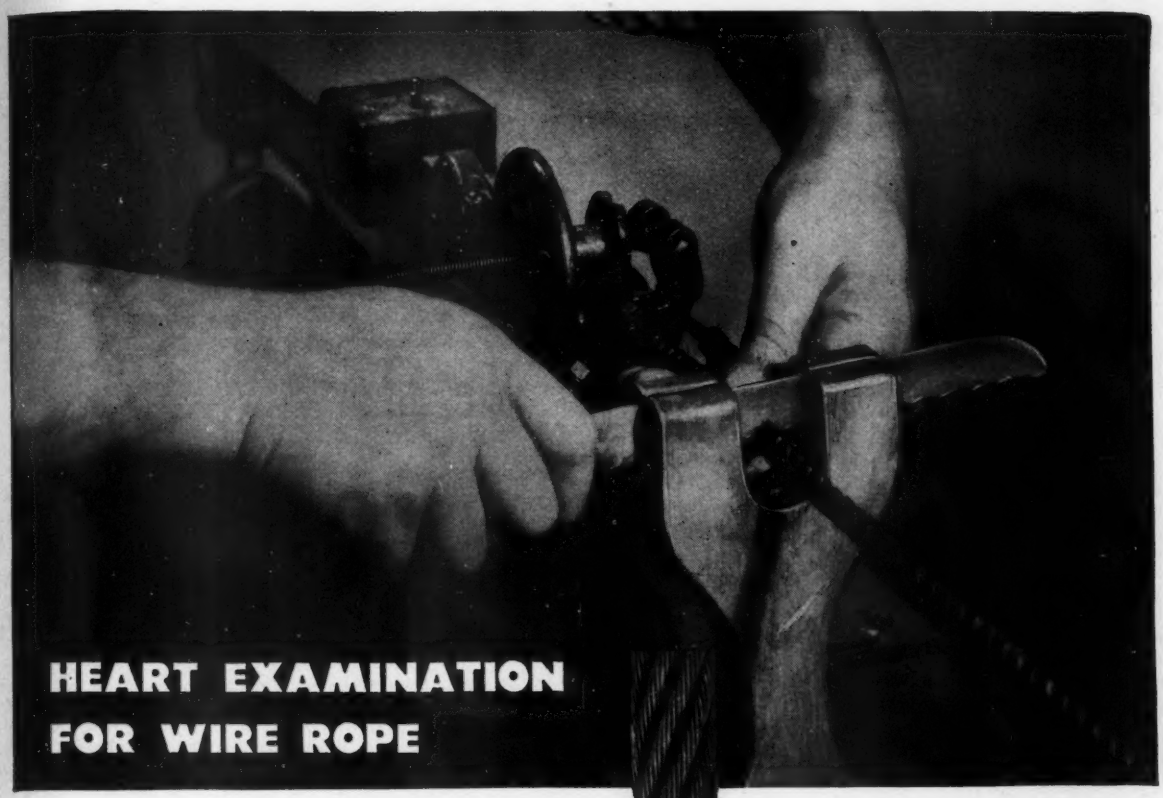

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Sounding-Lead

CONSUMPTION UP— Americans ate three-quarters of a pound more fish per person in 1948 than they did in 1947, according to the U. S. Fish & Wildlife Service. The 1948 per capita consumption of commercial fishery products in the United States is estimated at about 11.5 lbs. edible weight, compared to 10.8 in the previous year, with 132 million lbs. more fish being consumed during 1948 than in 1947.

Because of a larger catch, higher imports and decreased exports of fishery goods during 1948, 249 million lbs. more fish (edible weight) were available for consumption than in the previous year. The catch increased 200 million lbs., primarily fish marketed fresh and frozen. Imports were up 65 million lbs., largely frozen fillets and shrimp and canned items. Exports decreased 109 million lbs., almost entirely canned fish and shellfish. Canned stocks of fish in the United States increased an estimated 100 million lbs.; frozen stock holdings, 17 million lbs.

IMPORT INVESTIGATION— Despite industry protests, the State Department believes there is no present need to curb imports of fishery products. This viewpoint is expressed in a report submitted in compliance with the terms of H. R. 147 asking the Department to study the effect of imports on the domestic industry and to recommend remedial steps.

The Department said that a Fish & Wildlife Service review described 1948 as a healthy year for the U. S. fishing industry. "The total commercial catch was normal, the production of frozen fish was a record, the total canned pack was relatively large, and consumption of fishery products in the United States increased over the previous year."

The report admitted imports of certain fish products have increased much more than others, particularly groundfish fillets. The Department said, however, that there is a vigorous and apparently expanding demand for the product. It added that the domestic industry apparently has, "by and large, maintained and increased production in the last three years. Imports have increased, but less, in absolute terms, than production.

Limiting imports, the Department explained, would mean re-establishing trade barriers, and might lead to retaliatory actions by other countries and aggravate "the basic problem which concerns the world today, the so-called dollar shortage". It is interesting to note, however, that South Africa already has limited imports of U. S. canned sardines.

Still determined and hoping for some action, the NFI Import Committee will ask Congress to set a percentage quota for imports of fresh and frozen groundfish fillets. The quota recommended would be based on an average of the total consumption of domestic and imported fillets for the three preceding years. Thus the current year quota would be 24% or 43,000,000 lbs. The NFI and the Atlantic Fishermen's Union also have appealed to the Secretary of State to reopen the Canadian Trade Agreement that a reasonable quota may be set on imports of fresh and frozen groundfish fillets.

GULF EXPLORATION— Biological research and exploratory fishing for tuna in the Gulf of Mexico by the U. S. Fish & Wildlife Service are the aims of a bill which was before the House Merchant Marine and Fisheries Committee last month. For use in this work, the measure would direct the transfer of the 92' trawlers *Alaska* and *Oregon* from the Reconstruction Finance Corporation to the U. S. Fish & Wildlife Service. These vessels were constructed by the Government during the war and used in the Pacific in seeking new tuna grounds, and at present are being offered for sale by RFC.

Supporting the bill, Rep. William M. Colmer of Mississippi told the Committee at hearings on May 13 that there is also a possibility of finding new fishing grounds for red snapper, mackerel, and trout. For illustration, he pointed out that in shrimp explorations a few years ago, new grounds were discovered far offshore where jumbo shrimp are now taken in great quantities.

FAO IN LATIN AMERICA—Preliminary to the establishment of an FAO regional office for Latin America, the Food and Agriculture Organization has forwarded to member governments there a review of the Organization's work program in Latin America during 1949, together with an outline of its longer-term plans for contributing to an expansion of the region's fisheries.

With particular reference to fisheries, a representative of FAO's Fisheries Division is investigating the possibility of convening a conference to establish a Latin American Fisheries Council along lines similar to the council established last year in the Indo-Pacific Area.

LOBSTER, SHRIMP IMPORTS—Imports of spiny lobsters into the United States during the month of March amounted to 1,414,650 lbs., with the Union of South Africa accounting for 423,120 lbs., or the largest part of the total. Imports from Australia were second, totalling 382,840 lbs., followed by those from Mexico, 262,847 lbs. The total for the first quarter of this year was only 50,000 greater than for the same period last year.

Imports from Australia, New Zealand, and the Union of South Africa were frozen spiny lobster tails only, while those from Mexico, and the Bahamas were mainly whole spiny lobsters. Cuba's imports were of both the whole animal and the tails.

Imports of fresh and frozen shrimp from Mexico into the United States during the month of March amounted to 3,192,850 lbs., which was approximately 400,000 lbs. more than during March, 1948, when 2,803,912 lbs. were entered. Imports of shrimp for the first three months of 1949 were 9,561,196 lbs., or 3,098,023 lbs. greater than for the first quarter of 1948.

ELECTRICAL CATCHING—In Hamburg, Germany an old minesweeper is being fitted with a device to catch sea fish electrically. The device consists of a generator and a special combination of electrodes and conventional nets. The electrodes set up an electric field which induces the fish involuntarily to begin to swim in the direction of the mouth of the net. The special generator is needed to make it possible to set up a sufficiently strong electric field over a large area without a prohibitively great power consumption. When the device is used in fresh water, no special generator is needed.

By controlling the gradient of the electric field, it is claimed possible to control the size of the fish caught. The necessity of dragging the net over rocky bottoms is eliminated, and the fish recover quickly with no ill effects from the influence of the electric field.

LEGISLATIVE PROGRESS—Senator McGrath of Rhode Island has introduced an amendment (S. 1902) which would change section 41 of the Farm Credit Act of 1933 so that cooperative fishery associations might obtain Government loans in somewhat the same fashion as farm cooperatives. Under the terms of the bill, the U. S. Fish & Wildlife Service is directed to make the loans. The bill, sponsored at the request of Point Judith Fishermen's Cooperative Association, Inc., Point Judith, R. I., has been referred to the Committee on Agriculture and Forestry.

On May 17, Senator Saltonstall of Massachusetts introduced the following amendment to the Agricultural Research and Marketing Act, which was approved by the Senate: "Provided further, that no part of this appropriation shall be available for work relating to fish or shellfish or any product thereof, except for the support of equitable transportation rates before federal agencies concerned with such rates and for development of inspection, grading, standards and foreign markets."

The Lucas Bill (H. R. 4272), although it may not reach the floor this session, carries the same exemption language for fisheries as the present Fair Labor Standards Act. Thus, if the bill becomes law, the exemption with respect to wages and hours would be outright for offshore and onshore fishery workers.

However, H. R. 4782 filed by Congressman Combs of Texas, amends the Fair Labor Standards Act of 1938. This measure

(Continued on page 53)

MURPHY DIESEL *is the best buy!"* says "Doc" Skinner

RIGHT — The new "Joyce Marie" MURPHY POWERED after "Doc" Skinner's success with the MURPHY POWERED "Theresa Marie." **BELOW**— "Doc" Skinner, left, and Capt. Gunnar Carlson aboard the "Theresa Marie."

And backs it up with another MURPHY DIESEL for his trawler, the "Joyce Marie"

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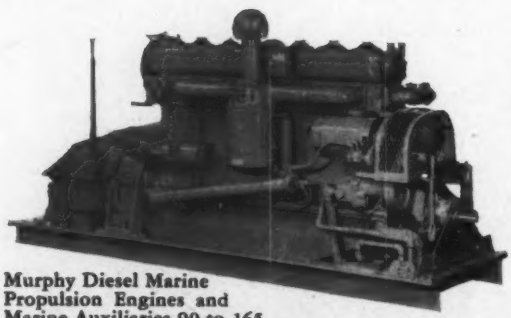
"In my opinion the Murphy Diesel is the best buy . . . (in its size) *of any engine manufactured."*

Why don't you profit by "Doc" Skinner's experience, too? Get full details from your Murphy Diesel Dealer or write direct.



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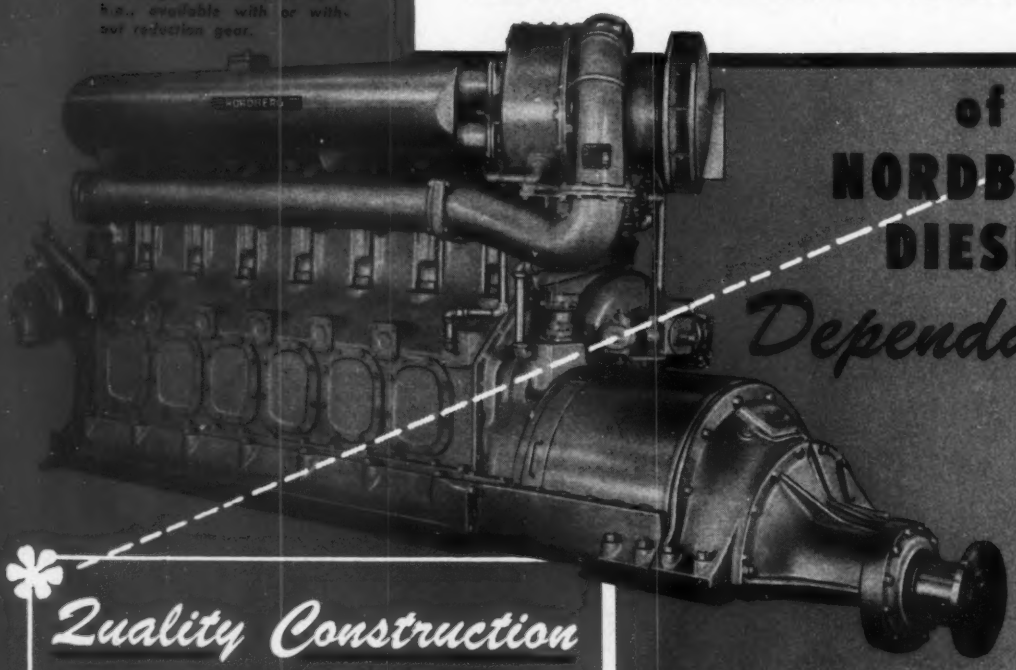
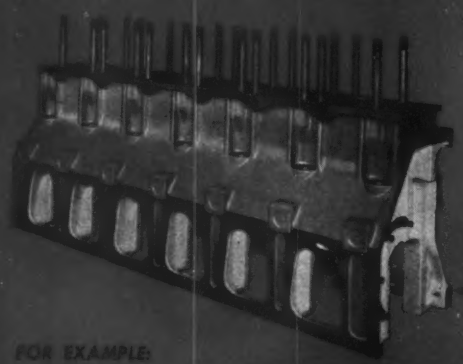


Quality Construction



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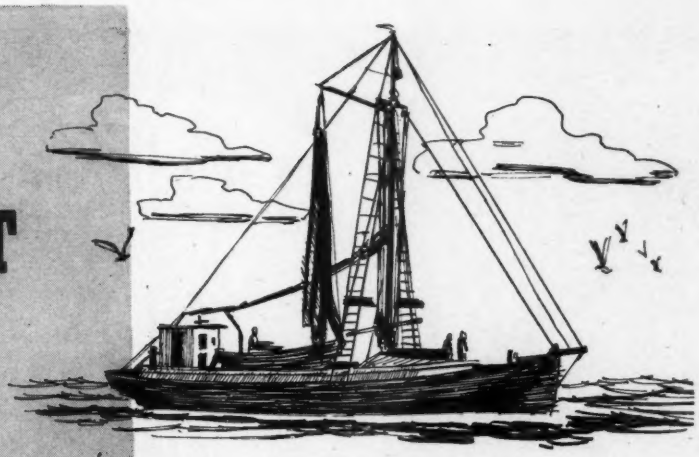

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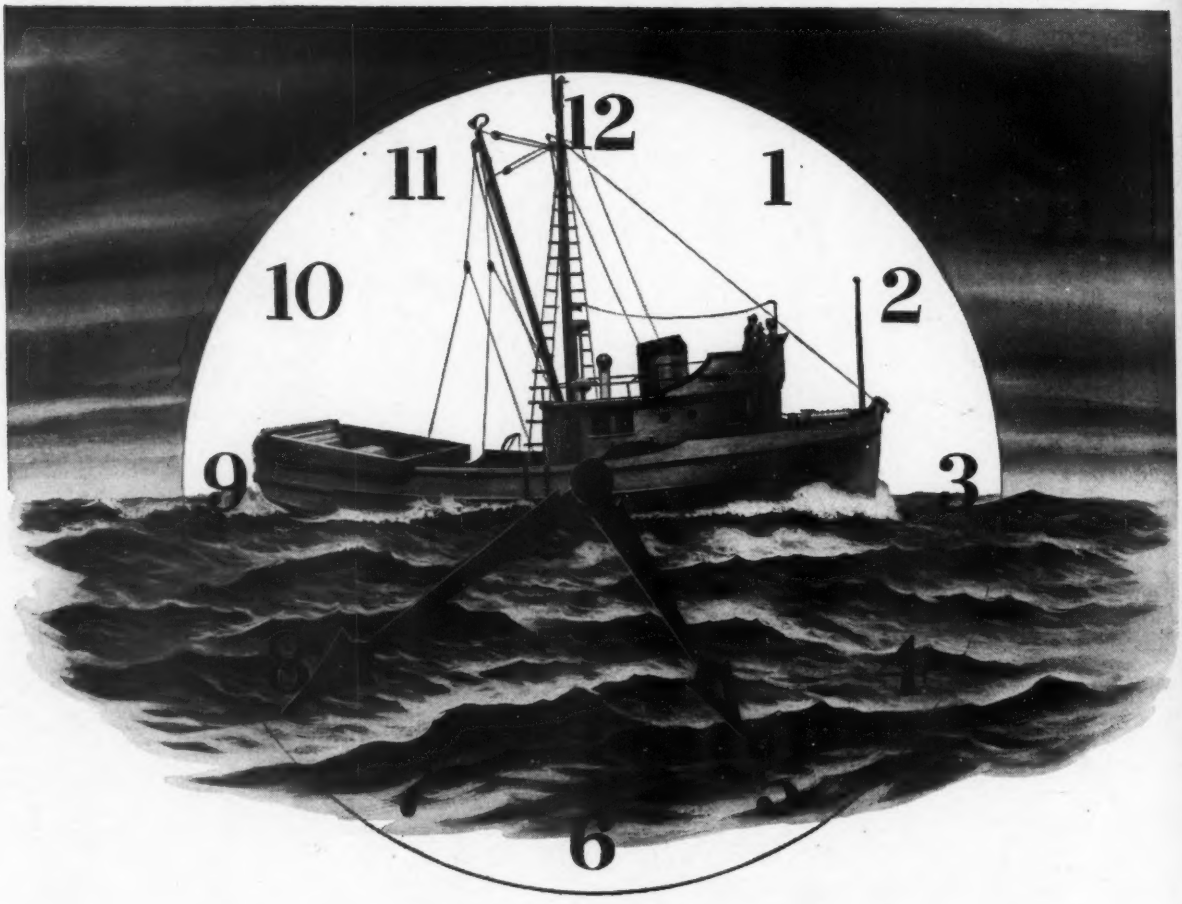

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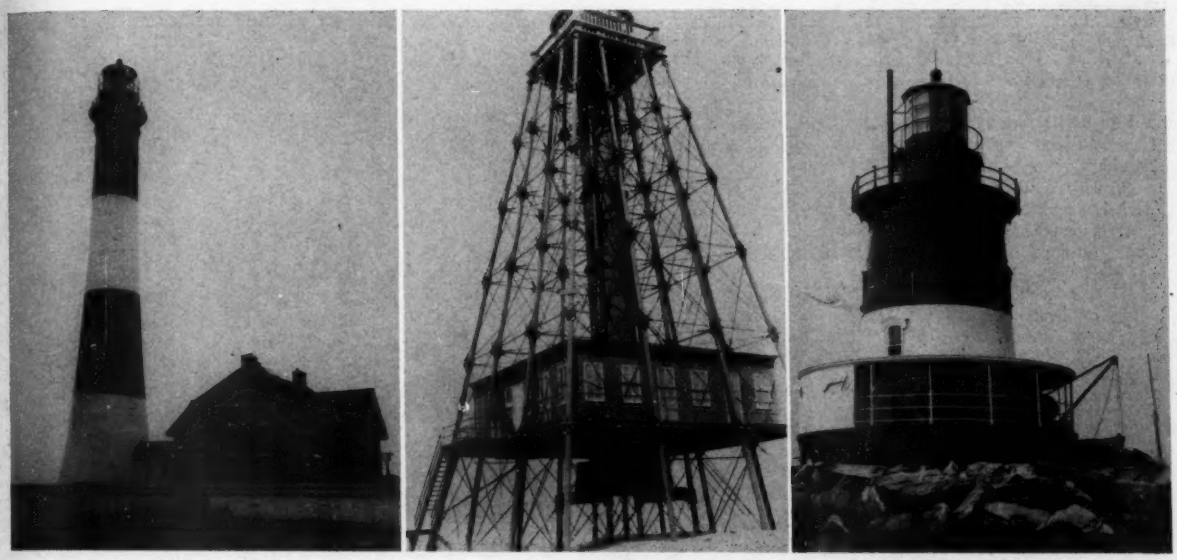
Growth of Lighthouse Service Keeps Pace With Need for Navigation Aids



These lighthouses show different types of design and construction dictated by location. Left, Fire Island Light on the south shore of Long Island, N. Y. Center, an open frame wrought iron tower, Sand Key Light stands on a Florida Key. Right, Romer Shoals Light in New York Lower Bay is of use in entering or leaving New York Harbor.

PROBABLY few fishermen making use of the elaborate system of aids to navigation maintained by the United States Government for the benefit of mariners, appreciate the fact that this system, as such, is less than 100 years old. For practical purposes, it may be said that effectively systematized aids to navigation did not actually come into being until 1852.

However, the work of maintaining aids to navigation is one of the oldest of the Federal functions. Funds for lighthouses were provided for at the first session of Congress in 1789. When the Federal Government was first organized there were 12 lighthouses turned over to it by the various colonies, forming the nucleus of the present system. Of these colonial lights, six were within the confines of Massachusetts Colony, and one each was in Rhode Island, New Hampshire, Connecticut, New Jersey, Delaware, and South Carolina. Some of these early colonial lighthouses are still maintained as navigational aids and are familiar to fishermen. An example is Boston Light which originally was built in 1716 and is the oldest lighthouse in America.

Some of our earliest lighthouses were constructed and maintained by private corporations. Prior to the erection of Boston Light, ships entering Boston were guided by a beacon created by the Town of Hull in 1681. This was a crate-type iron firebox, raised on props, in which wood was burned at night.

In the early years of lighthouse work, there were constructed many lighthouses which have become famous, some for the engineering skill displayed in their erection, and others because of the extremely dangerous points which they marked. Boston Light was authorized in 1716 by the British, but was paid for by the colonists. They raised the money by charging ship owners one penny a ton each time one of their ships passed the light.

During the 232 years of its existence, the famous Boston Light has failed mariners only six times, three times because of warfare, three times because of fire started by its own light.

It first fell a victim to war when the British were reported off Hull Bay and the colonists rowed out from Nantasket to put out the light. It was extinguished again during the War of 1812, and, finally, during the recent World war.

In 1791 the old tower at Cape Henry, Virginia, was built, a tower which has stood even to the present day, and which, incidentally, marks the approximate spot at which the earliest settlers of Virginia first landed. Although the new Cape Henry Lighthouse, constructed in 1887, serves today as the guide to mariners, the old tower on its sand hill close by is a monument to the skill of its builders. Portland Head, Maine, is another of the early lighthouses which has guided many a mariner to safety in Portland harbor.

Tybee, at the entrance to the Savannah River; Cape Canaveral, on the east coast; and the no longer used but still picturesque tower of Cape Florida, near Miami, are among the Southern lighthouses which have added to the history of American lighthouse work. Biloxi Lighthouse in Mississippi was built in 1848 and at the beginning of the war between the states, when Ship Island was taken, a citizen of Biloxi climbed the tower, removed the lens and buried it. However, at the close of the war

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The oldest coastal beacon in the U. S., Boston Light has guided ships since 1716. A Coast Guard helicopter hovers nearby symbolizing the old and the new in aids to mariners.

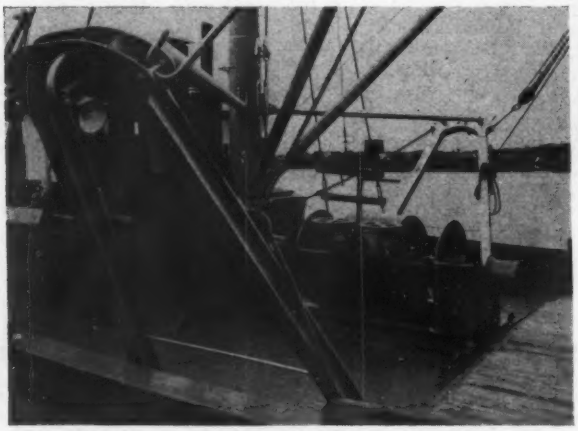
65-Foot "Bright Moon" Joins Scallop Fleet

A NEW addition to the New York fishing fleet, the 65′ scallop dragger *Bright Moon*, was delivered to her owner, Capt. John Melhus of Brooklyn, last month. She was built by Diesel Engine Sales Co. Inc. of St. Augustine, Fla. from Tams, Inc. plans.

The vessel represents the latest advancements in scalloper design and construction, and is modernly equipped throughout. Staunchly built, the craft has 2″ cypress pine planking over 2″ x 4″ white oak frames, spaced 8″ apart. Her keel is 9″ x 12″, deck beams are 4″ x 4″ and decking is 2″ x 4″ pine. The hull is treated with Cuprinol and sheathed with oak. Steel mast, booms and gallows-frames support the rigging.

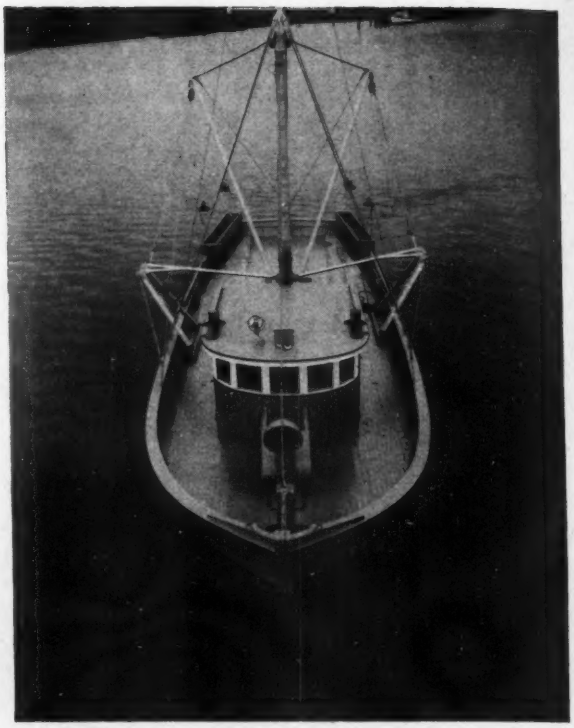
Fo'c's'le Well Arranged

Of 18′ beam, the *Bright Moon* has a gross tonnage of 57.4, and her fish hold capacity is 44,000 lbs. Accommodations are provided for 8 men in the fo'c's'le and 2 in the pilot house. The fo'c's'le is well arranged, having numerous lockers, ample shelving and an extra large ice box.



Aft of deckhouse on "Bright Moon" showing Hathaway dragging gear.

Power is supplied by a 165 hp. General Motors 6-71 Diesel with 4:1 hydraulic reduction gear, which gives the vessel a speed of 10 knots. The engine turns a 48 x 30 Columbian propeller on a 3″ bronze shaft fitted with Goodrich Cutless rubber stern bearing.

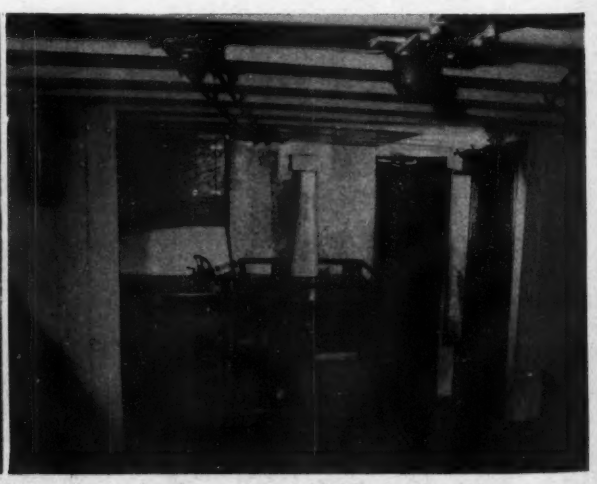


The scallop dragger "Bright Moon" owned by Capt. John Melhus of Brooklyn, N. Y. and built by Diesel Engine Sales Co., St. Augustine, Fla.

The vessel is equipped with 32-volt, type HR-19 Surrette batteries consisting of four 4-cell trays, and a 2 kw. Sheppard Diesel auxiliary generating unit. All wiring is marine type. The two fuel tanks carry 1500 gals., while the lube oil tank holds 80 gals., making it possible for the craft to stay at sea for 2 to 3 weeks. Fresh water capacity is 375 gals.

Dragging gear comprises a Hathaway #1335, 1948 model winch, with capacity of 300 fathoms of 5/8″ wire per drum, Hathaway 4″ galvanized welded steel gallows frames, and lead and hanger blocks for deck and frames. The winch operates through a Twin Disc clutch.

Other items of equipment on the *Bright Moon* include Columbian rope, Shipmate oil-fired galley stove, Model ET-8037, 30 watt RCA radiotelephone and three Kidde fire extinguishers.



Left, the 165 hp. General Motors Diesel in the "Bright Moon", right, galley in the after section of fo'c's'le showing Shipmate range.

Freezing Round Fish Aboard Boats

Experiments Show Fillets Cut and Refrozen from Fish Thawed At Shore Plants are Equal to Those Obtained from Iced Fish*

FREEZING fish at sea is not entirely a new procedure and is practiced in some areas with success. Certain West Coast species, such as tuna, are frozen aboard vessels for later processing into canned fish products. More recently, a West Coast trawler has been designed to produce frozen packaged fish at sea. At present, information is not available in sufficient detail to indicate whether or not factory ships of this type will prove a financial success. It is felt, however, that the production of frozen packaged fish at sea has been handicapped by the additional expense of filleting and packaging aboard the vessels. In addition, fillet lines aboard vessels cannot attain all the refinements of shore stations due to space limitations. The operation would be much simpler if the whole fish could be frozen, glazed, and stored aboard the vessel and after landing, thawed, filleted, packaged, and refrozen at the convenience of the shore plants.

Prime Quality for Initial Freezing

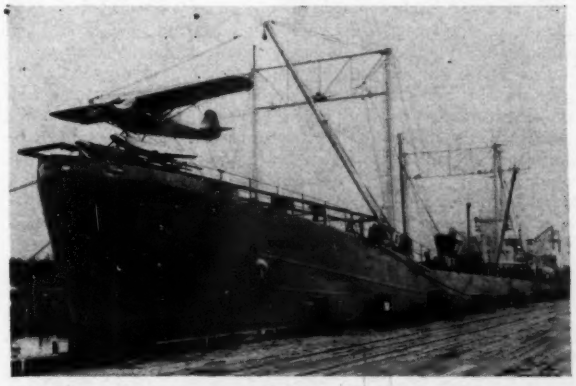
Preserving fish in the round aboard vessels by freezing for later defrosting and refreezing ashore is contrary to the rather widespread popular belief that once fish is frozen it should never be refrozen. This belief is no doubt a result of experience gained in refreezing fish that are not in strictly prime condition at the time of initial freezing.

Fish that have been iced on vessels for extended periods have passed through rigor mortis and have undergone a certain amount of physical damage from the pressure of ice and fish above in addition to breakdown from autolytic enzymes and bacteria. Freezing, thawing, and refreezing of fish in this condition is not conducive to the production of fish products of first quality. On the other hand, fish freshly caught are not yet in or just about beginning to go into rigor. At this stage, the flesh is elastic and is not as subject to injury as is iced fish when frozen. Furthermore, autolytic and bacterial breakdown in fish freshly caught has not had an opportunity to commence. The freezing of fish immediately after being caught would slow down or retard rigor mortis and markedly reduce autolytic and bacterial breakdown. Fish flesh in this condition it is believed would, upon proper defrosting and refreezing retain to a large measure those characteristics of fish freshly caught.

West Coast Experiments

In the Seattle laboratory of the U. S. Fish & Wildlife Service, experiments are under way on species of trawl caught fish common to the Bering Sea and waters adjacent to the Alaskan Peninsula. This area is fished at present only for king crab and true cod by commercial boats from Seattle. Large quantities of ground fish exist in the area which are at present not exploited due to the long distance from port, existence of fishing banks much closer to Seattle, lack of market for additional quantities of fish, and the comparatively unknown factors of quality, size, and distribution. Expansion of the trawl fishery for king crab, increased competition among trawlers fishing the nearby banks, and dissemination of knowledge from planned exploratory fishing expeditions are factors which should increase the importance of the area for commercial fish exploitation. The impracticability of icing trawl caught fish for the 7-8 day trip to Seattle and the difficulties that have been encountered in conducting filleting operations aboard vessels on a profitable basis indicate that fish might best be handled by freezing them in the round at sea and delivering to shore plants for thawing, filleting, packaging, and refreezing.

Initial tests were made on flat head and yellow fin sole prepared aboard the trawler *Alaska* operating in the Bering Sea. Approximately 50 lbs. of fish of each species were frozen in the round in the vessel's sharp freezer at —12°F, glazed and placed



The "Oceanic 5", a converted Navy LST which is mother ship for a fleet of Pacific tuna boats operated out of Houston, Tex. by Oceanic Foods Co. She has refrigerated storage space for 1,700 tons of frozen fish, carries two spotter planes and uses the Panama Canal to reach the tuna areas.

in the storage at 10°F. Control fillets were prepared from each species at the same time, packaged in ½-lb. tin cans, frozen and stored at the same temperatures as the fish in the round. All samples were transferred to the laboratory storage room at 0°F two weeks after catching. After further storage for eight weeks, the whole fish were immersed in running fresh water until thawed sufficiently to handle, filleted, packaged in tin cans similar to those prepared aboard ship, frozen at —20°F and stored at 0°F.

Drip measurements and organoleptic examinations were performed for each species. With each species the raw and cooked samples of refrozen fillets were compared by the laboratory taste panel to the fillets which had been prepared aboard ship. Criteria used for comparison were color, texture, rancidity of fatty surface flesh, and flavor. Comparison of the average percent drip on the control and refrozen fillets indicated that refreezing did not result in a significant difference. Control fillets of flat head sole (filleted aboard ship) averaged 8.75% drip and refrozen fillets of flat head averaged 7.50% drip. Control fillets of yellow fin sole averaged 9.38% drip and refrozen fillets of yellow fin averaged 8.83%. The color, flavor and texture of refrozen fillets were slightly superior in most samples to those of the control fillets.

In a second series of experiments, Alaska pollock and three species of flounder including rock, lemon, and yellow fin sole were frozen for test purposes aboard the factory ship *Pacific Explorer*. Drip measurements on this group of fish also indicated that there was no significant difference in the average percentage drip from refrozen fillets when compared to that of control fillets. The fish used in this experiment were stored up to nine months in cold storage at 0°F and were examined three times during this period.

Comparison with Commercial Fillets

Samples of fish for study in the third series of tests were obtained during an exploratory trip of the trawler *USFWS Washington* to the Bering Sea. Here the fish were frozen aboard the vessel in the round for later defrosting, filleting, and packaging ashore. Comparisons were made with fish of the same species that were caught by commercial trawlers off banks off the coast of Washington and that were processed in accordance with the commercial practice of filleting iced fish. Five species of flounder were represented in these tests.

All fish were placed in the freezer within a half hour after catching. In this instance, the fish were frozen and stored in

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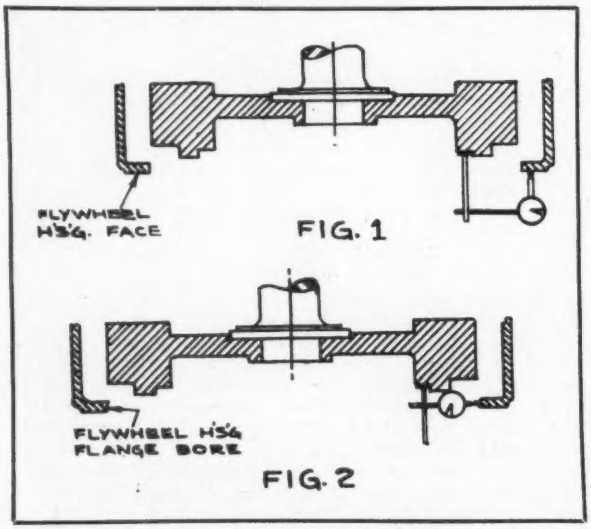
* Paper delivered at recent National Fisheries Convention by Joseph F. Puncochar, Boston Fishery Technological Laboratory, U. S. Fish & Wildlife Service.

Flywheel Alignment for Power Take-Off

By George Pheil*

THE most important precaution to insure the satisfactory operation of a power take-off or transmission when assembled to an engine is to make sure that closest possible alignment is provided between the component assembly and the engine. Improper alignment will result in undue wear from excessive stressing of parts in the clutch or transmission. The following procedure of checking will give an indication of flywheel and flywheel housing trueness.

Clean flywheel and housing thoroughly. Bolt the thousandths indicator or gage to flywheel so it is perpendicular to the housing face, and indicator stem is riding on the flywheel housing face. Turn the engine over by hand, taking at least four indicator readings on the housing face, at approximately 90° spacing. These runout readings can be marked in chalk on the housing face for reference. S.A.E. specifications state that maximum deviation of the face of the flywheel housing flange from its true position when the flywheel is rotated on its axis shall be 0.003". (Total indicator runout 0.006".) See Fig. 1.



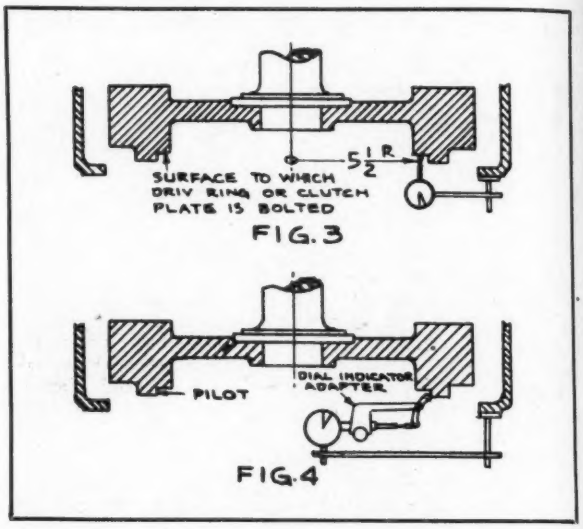
Then readjust indicator so that the stem will ride on the bore of the flywheel housing flange. Turn the engine over by hand, taking at least four indicator readings on the housing bore. The maximum eccentricity of the bore of the flywheel housing shall be 0.005". (Total indicator reading 0.010".) See Fig. 2.

Check runout of engine flywheel face at the driving ring or clutch plate bolt circle. Mount the dial indicator on the engine flywheel housing face, and while turning the engine over by hand, take at least four readings on the flywheel face at the bolt circle, for one revolution of the flywheel. S.A.E. specifications permit a maximum runout of 0.005" total indicator reading at a radius of 5½" as shown in Fig. 3. This maximum allowable runout increases in proportion to the ratio of the actual radius of the surface measured to the 5½" radius shown in Fig. 3.

The maximum eccentricity for the pilot in the flywheel which pilots the driving ring or clutch plate shall be 0.0025". (Total indicator runout 0.005".) See Fig. 4.

With indicator bolted to the flywheel housing, check eccentricity of pilot bearing bore in the flywheel. The maximum eccentricity for the bore in the flywheel for the pilot bearing shall be 0.0015". (Total indicator runout 0.003".) See Fig. 5.

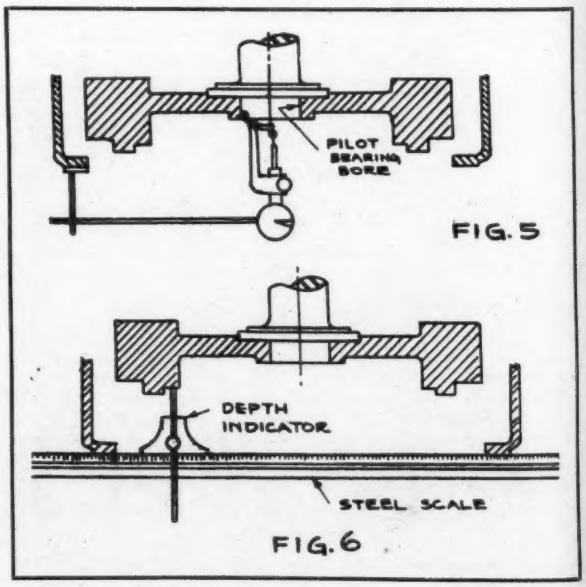
Bolt engine to its bed and recheck as in Figures 1 and 2. These additional checks are made necessary for the reason that the engine flywheel housing feet or engine base may be damaged



occasionally or warped in transit, and the flywheel housing may be warped or deflected. If necessary, place shims between the engine supports and the engine bed, and again recheck as in Figures 1 and 2.

The dimensions of the engine flywheel must conform closely with those specified for use with the individual application that is adapted to it. These are given on the installation prints supplied by the respective manufacturer. The most convenient way to check the dimensions of the flywheel is to place a two-foot steel scale edgewise across the face of the flywheel housing, as all dimensions are given in relation to this surface, and to use a short scale or depth indicator in connection with this scale as shown in Fig. 6.

If the flywheel does not check with the dimensions shown on the transmission or clutch manufacturer installation print, it is recommended to get in touch with the manufacturer of the engine or his nearest authorized representative before taking further steps. It will generally be found that the engine manufacturer is in a better position to make suitable provisions to supply the correct flywheel for the transmissions referred to than can be made by re-machining an old flywheel locally.



* Engineer, Twin Disc Clutch Company.

Factors Affecting Compass Installation

By Egerton B. Sawtelle*

THE magnetic compass is the most useful and dependable piece of navigation equipment on a vessel. It will probably continue to be so for many generations. The reason for this is that the magnetic compass is rugged, simple and self sufficient. Its operation depends directly on God given laws—the laws of magnetism.

Modern aids to navigation are numerous and tremendously valuable but, in a pinch, even a big vessel may have to rely entirely on simple magnets attached to a card and floating in a bowl of liquid—the magnetic compass. (See figure 1.) During the last war, the writer saw service as navigator on a 10,000 ton attack cargo vessel. The Navy had the latest and best navigation equipment aboard these ships. There was a gyro compass, air and sea search Radar, Loran and a depth sounder.

This modern electronic equipment is marvelous and is continually being improved, but it is delicate, parts do wear or burn out, and all of it depends on outside electrical power for its operation. Only the magnetic compass is self sufficient. In the Pacific Ocean, near the island of Okinawa, our vessel was in an attacking convoy. It was night and visibility was poor because of rain squalls. On top of all this the convoy was zig zagging. Suddenly our gyro compass went out of operation due to a combination of power and battery failure. The shift to steering by magnetic compass was made instantly and all went well until the power failure had been remedied. This feat was possible only because we had kept our magnetic compasses in good adjustment, knew by constant comparisons just what the errors were, and even made up corresponding zig zag courses—taking all these factors into account.

There is no intention whatever of suggesting that we should not use all modern equipment to its fullest extent. Most of it is indispensable in this fast moving age of keen competition. But don't ever sell short your magnetic compass, or the understanding of it. For example, the other day the skipper of a good sized dragger told me that he did not have to worry too much about his magnetic compass any more, because he could follow a Loran line from the Banks directly into his home port. The time may come, without any warning, when your magnetic compass is just as valuable to you as a life boat.

Preventing Local Attraction

The installation of a magnetic compass is of vital importance if the compass is to give really satisfactory service. The north point, so called, of such a compass points practically toward the magnetic north pole of the earth, provided there is no local magnetic attraction in the vicinity. Such attraction will cause the compass to point incorrectly and this will make it impossible to steer a desired course unless this "error" is known and allowed for, or unless this error is removed by compass adjusting.

Any motor vessel, either steel or wood hull, is sure to have iron and steel in her construction and equipment which will cause errors in her compass. Improperly installed electrical wiring may also cause such errors. Thus, generally speaking, the local attraction with which we are concerned is to be found only in the vessel. Remember that as a rule there is nothing the matter with the compass itself. The reason the compass does not head properly is because of local attraction set up in the vessel herself, which pulls the poor innocent compass this way and that.

The most important and most fundamental problem of compass installation is that of removing, or preventing the existence of, as much local attraction in the place where the compass is to be installed as is practicable. After a vessel is built, such work is usually very inconvenient and costly. All too few naval architects and builders give this problem the consideration it deserves. If a competent compass adjuster were consulted by these well meaning professionals, the chief headache of the compass adjuster would be overcome. As a rule the compass adjuster is called in at the time of the trial run when everything is all set to go.

* Compass Adjuster—Freeport, Maine. This is the first of a series of articles on compasses.

Fig. 1 — The magnetic compass-magnets attached to a card partially floating in a bowl of liquid.

When an old vessel is being rebuilt, the builder should get together with a compass adjuster. Here is a good chance to get rid of or move various pieces of equipment that may have been torturing the compass for years. Also with the advice of a compass adjuster, the chances are that the new equipment and improvements being made will be handled in such a way that the magnetic compass will not suffer thereby. A very well arranged Pilothouse for Compass Installation is shown in Figure 2.

Now let's be more specific about the pitfalls of local attraction against which we should guard to obtain a good compass installation. The following should not be tolerated in the vicinity of your compass installation.

1. Vertical iron or steel such as exhaust pipes, boat davits, masts, engine room telegraphs and the cables for same, steering mechanism standards and chain or cables leading to same, concealed tie rods in wooden pilothouse construction, wire in non-shatterable window glass, columns supporting pilothouse, speaking tubes, window frames, flood and searchlight standards and/or supports, table and chair legs and/or standards, vertical piping, winch cables, net gear, tachometer cables, standing rigging, and miscellaneous vertical rigging.

2. Large masses of iron such as winches, steel decks, table, chairs, pails, drums, tool boxes, search and floodlights, heat radiators and piping, horizontal and inclined tie rods and/or braces, engines, tachometers, air compressors, horizontal and inclined piping, and miscellaneous net gear.

3. Electronic equipment such as depth sounders, radio direction finders, radio receivers, radiotelephones, Loran and Radar installations and electrical power leads to and from all such equipment.

4. Electrical equipment in general such as motors, generators,

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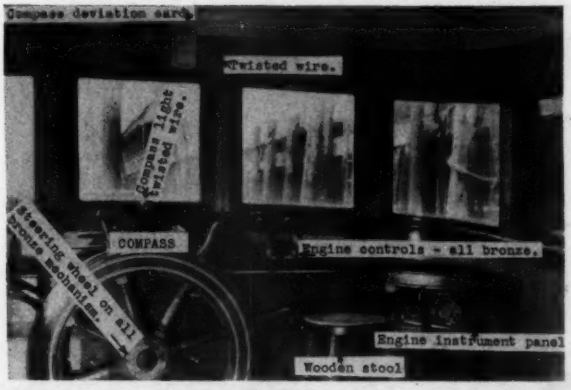


Fig. 2—A very well arranged pilothouse for compass installation.

Great Lakes Whitefish Catches Sizable

Michigan, Minnesota and Wisconsin commercial fishermen enjoyed some good catches of trout and whitefish in Lake Superior during early May. Average Michigan trout takes were above those of the same period last year, and hauls of over 1,000 lbs. to a lift were reported in the Keweenaw Peninsula area. Gill netters were leading in production, but the set hook line fishermen were lifting as much as 600 lbs. a day.

Around Houghton, Mich., trout were retailing for 39 to 41c a pound and whitefish for 35c, a drop for both species from the March and April price of 51 to 53c. Minnesota and Wisconsin fishermen fared better.

Herring production in this area was below last year's average while smelt production was fairly good, although no big smelt run materialized.

Commercial fishermen in the Green Bay area of both Michigan and Wisconsin made some nice catches of lake perch in May, and whitefish production increased to some degree. Walleyes were being taken in good quantities and a run was expected to develop. The smelt catch in April, particularly, was very good with a yield of 50,000 lbs. a day reported frequently. The total smelt production for the year is estimated to be over the million-pound mark. The May herring production was fair to good and trout catches were low, while chub and sucker takes were generally up with demand.

In Lake Michigan, fishermen were concentrating mostly on mixed fish catches early last month, with very little lake trout production reported. The perch yield was high and the price held up well. The big, established operators were using virtually all of their netting in this area.

Commercial fishermen in the Lakes Huron and Erie region made some sizable catches of perch, whitefish and pike during May and pike production in Lake Erie was up. Several catches of more than 1,000 lbs. of whitefish per tug in a day reportedly were made in the central waters of Lake Erie.

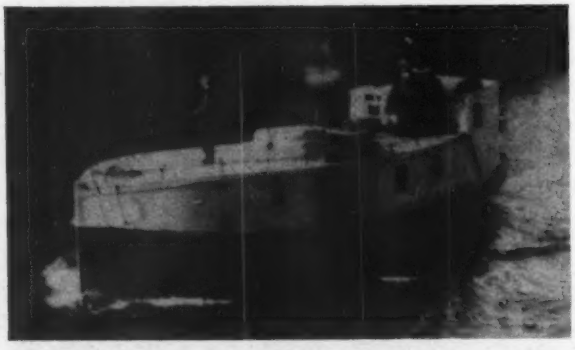
Congressman Potter Seeks Fish Hatcheries

Establishment of fish hatcheries in the Great Lakes area is one of the main aims of Congressman Charles E. Potter of Michigan. Many Great Lakes fishermen believe that hatcheries are the answer to the sea lamprey problem.

It was evident at recent House Merchant Marine and Fisheries Sub-Committee hearings, however, that fishery administrators and scientists feel there is not sufficient data or proof available that hatcheries are the answer, but they readily admit the need for more information. Congressman Potter nevertheless advocates that at least an experimental hatchery be set up quickly. He also is working closely with Senator Ferguson of Michigan to secure adequate funds to undertake an intelligent study and control program of the sea lamprey not later than next July 1.

Elvers May Solve Lamprey Problem

Eels, known as elvers, are being collected in Maine streams by Dr. Alfred Pearlmutter of the U. S. Fish & Wildlife Service in the hope that they may be the answer to the Great Lakes sea lamprey problem. The elvers come into Maine streams from the sea in the Spring, and it is believed that they feed on lamprey spawn. Some of the adults grow to a length of 3½'. Dr. Pearlmutter has collected about 300,000 of them, which will be shipped to Cheboygan, Mich., where the first tests will be made in enclosed areas.



The 50' tug "Clara S" owned and skippered by Capt. Thomas H. Peterson of Fayette, Mich. She is equipped with a 50 hp. Kahlenberg Diesel, Joes reverse gear and Starr nets, and she uses Esso lubricating oil.

The 36' gill netter "Edna" owned and skippered by Capt. John J. Settersten of Marinette, Wisc. She uses an 18 x 12 Hyde propeller and Columbian rope.

Recovers Cost of Lost Nets

Clare Thomas, Unionville, Mich. commercial fisherman, was voted $5,000 by the Michigan House of Representatives recently to compensate him for the loss of nets confiscated by the Conservation Department in 1944 on grounds that they were of illegal size. It required two years to carry the case through the Michigan Supreme Court, which ordered the nets returned. In the meantime, however, five of the 199 nets had disappeared.

Reimbursement for Nets Opposed

A member of Wisconsin's Conservation Commission, appearing before the legislative Finance Committee recently, opposed five bills for reimbursement of commercial fishermen for nets said to have been confiscated illegally in 1940 and 1941. The Commission representative said that there was no merit to the claims because the Conservation Department leans over backwards to enforce laws fairly and that unidentified nets, such as were seized, were contraband.

Asked to Report Taking of Tagged Perch

Green Bay commercial fishermen are asked by the Fish & Wildlife Service to report to the local conservation office the taking of tagged or fin-clipped perch in Green Bay, Lake Michigan. More than 10,000 perch were tagged last year, while 5,000 have been tagged thus far this year.

Smith Bros. Biggest Caviar Producer

Smith Brothers of Port Washington, Wis. completed the processing of a record season intake of 150,000 lbs. of whitefish caviar during May, which makes the firm the largest producer of caviar in this country. In order to get enough roe to supply the demand, the Port Washington plant relies upon the smaller fishermen in Lakes Michigan and Superior, as well as its own commercial fleet.

There are only three other caviar producers in the United States. They are all situated in New York State, and also use whitefish roe.

"Beatrice A." Moves to Erie

The Vermilion, Ohio tug *Beatrice A.*, skippered by Capt. Carl Leidheiser and formerly owned by Mrs. Russell Appeman, is now operating out of Erie, Penn. The tug was acquired by Erie Fish Co. last year but had been fishing for Kishman Fish Co., Vermilion, until recently.

Gloucester Anticipates New Production Record

With a total of 78,692,100 lbs. landed in 1,217 trips during the first five months of this year, Gloucester apparently is heading for another record year of fresh fish production. This would make Gloucester the leading food-fish port in the nation for the sixth year out of the past seven. Present production is 631,500 llbs. ahead of last year.

For these first five months, Boston leads Gloucester by 2,815,200 lbs. but, based on last year's record, it is expected that Gloucester's production will pass Boston's by the end of June.

During the last two days of May, a total of 4,200,000 lbs. of fresh fish was landed at Gloucester. In spite of this, however, redfish production for the port is about 5,500,000 lbs. behind last year due to the fact that a number of large draggers have been concentrating on grey sole for nearly a month. Therefore, no record for redfish production is anticipated this year.

On May 31, a record was established when 34 draggers hailed for approximately 800,000 lbs. of dressed whiting, the biggest single day's catch for that species. Although coming early in the season, this large quantity of whiting caused a glut which forced prices from 4c down to 3c per lb.

The whiting strike was made within sight of Cape Ann and one of the biggest trips landed was that of the dragger *Chebeague*, which hailed for 45,000 lbs. Two new draggers, the *Win Story*, Capt. Nofie DeMetrie, and the *Eastern Point*, Capt. Vito Lochrico, each hailed for 35,000 lbs. of whiting.

Fleet Hits Large Body of Mackerel

After a dearth of mackerel for several weeks, the Gloucester fleet struck the fish late last month south-southwest of No Man's Land and brought the catch into Port May 27.

The fleet included 18 seiners with a total of 1,063,000 lbs. of medium to large which sold for four cents per pound, bringing the fishermen $41,000. One trip, that of the *Carlo and Vince*, which was bought at New Bedford, brought $6.25 per 100 lbs.

The day's landings made the mackerel catch for the two months' season 1,897,000 lbs., in 69 trips by 22 seiners. High craft through May 27 was the *Alden*, Capt. Frank Mineo, with 302,000 lbs. in 12 trips, followed by *Santa Maria*, Capt. Peter Mercurio, with 140,000 lbs. in three trips.

Seven ports have taken mackerel this year through May, as follows: Gloucester, 19 trips, 1,066,000 lbs.; Cape May, N. J., 24 trips, 476,000 lbs.; New Bedford, 9 trips, 120,000 lbs.; New York, 3 trips, 75,000 lbs.; Newport, R. I., 7 trips, 69,000 lbs.; Boston, 2 trips, 60,000 lbs.; Norfolk, Va., 5 trips, 31,000 lbs.

March saw five trips landed with 31,000 lbs.; April, 32 trips, 643,000 lbs.; and May, 32 trips, 1,223,000 lbs. The first of June the local fleet was still on the fish and bringing in good trips.

"Pan Trades Andros" Bought by Army

The 110′ steel trawler *Pan Trades Andros*, which has been fishing out of Gloucester for the past year or more, has been sold to the Department of Army, Chief of Transportation, for use by Germany under the ECA program. The trawler is one of the largest craft in the port, with a capacity of some 270,000 lbs. of iced fish. She is the first vessel in the Gloucester fleet to be bought by the Army.

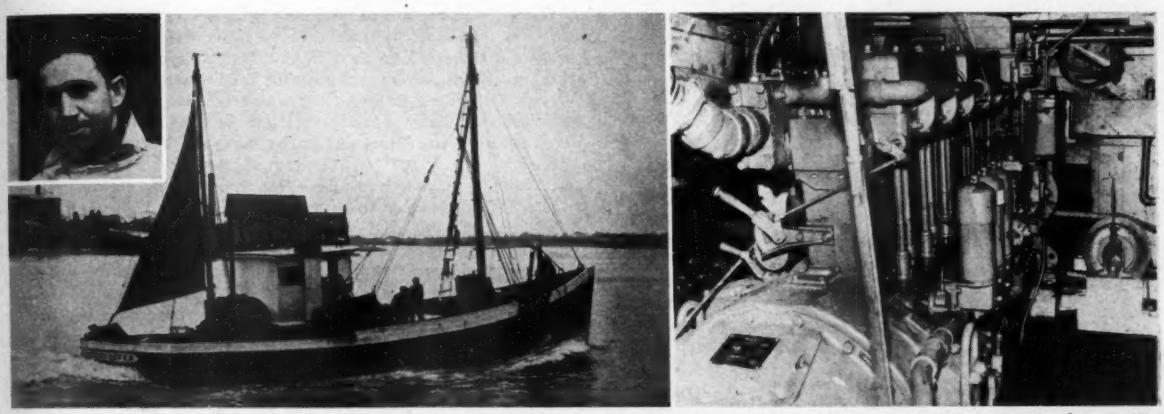
Near Record Redfish Day

Gloucester had the second biggest redfish day in its history May 23 when 21 draggers landed a total of 2,393,000 lbs. for a gross of about $96,000. The record redfish day was June 4, 1945 when 25 draggers landed 2,471,000 lbs.

This year's supply of redfish through May 23 amounts to 55,718,000 lbs. in 616 trips, which is 22 trips and 2,827,000 lbs. below 1948 for the corresponding period. Fresh fish receipts of Gloucester through the same day total 70,526,500 lbs., which is 4,375,400 lbs. less than last year. However, 1948 was a record year for both redfish and fresh fish production for this port.

During May, big redfish landings were made by the *Kingfish*, Capt. Ralph Jensen, with 230,000 lbs.; *Columbia*, Capt. Bert Hemeon, 220,000 lbs.; *Mary and Josephine*, Capt. Chris Cecilio, 217,000 lbs.; *Sunlight*, Capt. Eugene Marino, 210,000 lbs.; and *Corinthian*, Capt. Jerome Noble, 210,000 lbs.

The big draggers are going farther from port to get their redfish now and are landing some big fish from the Scatteri region.



The 52′ Gloucester dragger "Irma Virginia" owned and skippered by Capt. Sam Frontiero (inset), and her 115 hp. 'Caterpillar D13000 Diesel. She is equipped with a Twin Disc 2:1 reverse and reduction gear and a 40 x 36 propeller.

"Redskin", "Manuel P. Domingos" Lost

The 96′ fishing dragger *Redskin*, owned by Capt. Sinagra of Gloucester, ran hard aground on Wooden Ball Island, a mile northeast of Matinicus Island, on May 3 in a thick fog. A hole was torn in her side below the waterline as a result of going ashore, and after several attempts to float her, she was given up for a total loss. The skipper, Capt. Rosario Giamanco of Gloucester, and his crew of six men, including the owner, made shore safely.

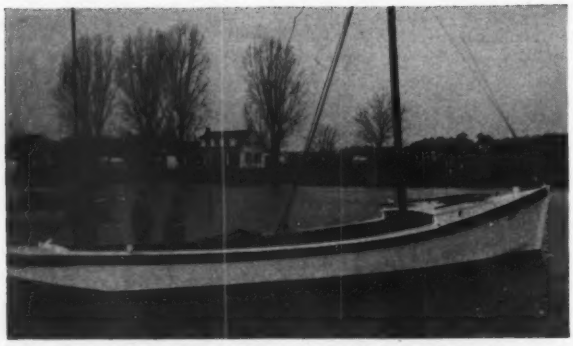
The 96′ dragger *Manuel P. Domingos* went to the bottom May 8 some 65 miles southwest of Halifax, N. S., northwest of Emerald Bank, after her sea cock broke open. Her skipper, Capt. Fernando M. Pereira, and crew of eight men, were rescued by the Gloucester dragger *Marion and Alice*, Capt. Raymond Sears, which transferred them to the *Emily Brown*, Capt. Reginald Pike, homeward bound from the fishing grounds. The ill-fated dragger was named in honor of Capt. Manuel Domingos of United Fisheries Co., which owned her.

William W. Lafond

William W. (Bill) Lafond, well known on the Gloucester waterfront for the past 37 years, died last month at the age of 64. He operated the Fisherman's Net & Twine Co. and in the past has operated both commercial and pleasure fishing craft. His son, Capt. J. Randolph Lafond, is skipper of the dragger *We Three*.

Capt. Carlo Sinagra

Capt. Carlo Sinagra of Gloucester, owner-skipper of the mackerel seiner *Frankie and Rose*, died May 23 at the age of 64.



The 47′ pound net boat "Jean" owned by W. E. Hogge & Bro., Perrin, Va. and skippered by Capt. M. F. Hogge. She is equipped with a 50 hp. Palmer gasoline engine using Esso lube oil, 26 x 18 Hyde propeller, Linen Thread Co. Gold Medal nets.

Virginia Pound Netters Oppose Bay Authority

The Virginia Pound Net Fishermen's Association, meeting at Kilmarnock late in May, went on record as opposed to the Virginia-Maryland Chesapeake Bay Authority. Its resolution on the joint control agency read in part as follows: "This association believes that passage of such a measure by the General Assembly would impose an unnecessary hardship on those engaged in commercial fishing in the State of Virginia, and that it would not tend to better conservation practices, but on the contrary would be the basis of great dissatisfaction between Maryland and Virginia".

The authority has been approved by Maryland and a bill to give it Virginia approval is expected in the next General Assembly.

Other resolutions adopted by the group urged: that the inspectors engaged in law enforcement under the Commission of Fisheries be relieved of their duties of collecting revenues by the sale of licenses, and that these services be separated; that adequate floating equipment be furnished the inspectors; that Congress establish quotas for importation of fresh and frozen fish; that exemption for both onshore and off-shore operations now existing in the Fair Labor Standards act be retained.

Officers of the association, all of whom were re-elected at the meeting, are H. P. Somers, Foxwells, president; E. Odell Fitchett, Palmer, vice-president, and Robert K. Whaley, White Stone, secretary-treasurer. The officers together with Carlyle S. Simmons, White Stone, and T. Vaden Fitchett, Kilmarnock, are members of the executive board. Ammon G. Dunton, White Stone, was again named counsel for the association.

Crabbing Good at Tangier

Peeler crabbing got off to a good start at Tangier last month with scrapers averaging as many as 1500 a day and trappers about 2,000, which sold for 3c apiece. By the middle of May, however, catches had dwindled to 75 and 100. Crab packers were shedding some 125 eighty-pound boxes of soft crabs a day.

At Morattico, a few crabs were being taken in pots the first of May and the crab and oyster house formerly owned by Max Bogan opened for the Summer.

Big Runs of Croaker and Drum

Tangier pound fishermen had two big runs of fish late in May, one of croaker and another of black drum. Capt. Will Parks, fishing one trap, caught 63 boxes of croaker which he sold for $17 a box. Trappers were catching as many as 52 drum a day, some of them weighing as much as 60 lbs.

Goodman Appointed Oyster Inspector

Clem Goodman, Lottsburg, has been appointed an oyster inspector for District 2, which includes the Coan and Yeocomico Rivers in Northumberland County. The appointment was made by Charles Lankford, commissioner of fisheries. Organizing oystermen for conservation purposes will be one of Goodman's chief duties.

Hampton Roads Area Landings Increase

Fish production in the Hampton Roads area totalled 2,089,500 lbs. in May, topping April by 220,500 lbs. and May 1948 by 706,000 lbs. Sea trout showed the greatest gain over April landings of any species with 612,800 lbs., an increase of 577,000 lbs., but dropped 24,000 lbs. below May 1948. Other leading varieties were scup, 394,500 lbs.; alewives, 198,400 lbs.; and croakers, 131,400 lbs. Of the total landings for the area, pound nets accounted for 1,482,900 lbs. and dragger fares made up the remainder.

Maryland Crab Season Opens With Heavy Run

There was an unusually heavy run of soft shell crabs during the first week in May when the season began in the Maryland waters of Chesapeake Bay. Some boats caught 2700 in one day. Packers placed large quantities in cold storage as demand was light. After the first week, the weather became cold and stormy and the run declined, nevertheless a good season is anticipated.

Watermen were catching some hard crabs in Chester River during the latter part of May and prices were high, $5 and $5.50 per barrel compared to $2.50 and as low as $1.00 in previous years. They expected to be getting soft shell crabs early in June.

Fisheries Reorganization Bills Vetoed

Confronted with the prospect of a movement to initiate a referendum against the legislation, Governor Lane announced last month that he would veto a bill to reorganize the Maryland Tidewater Fisheries Commission and a related bill which would have reconstituted the State Board of Natural Resources.

In turning down the Tidewater measure, Governor Lane said he still believed that it embodied an essential and constructive step toward restoring the oyster production in Maryland. He explained, however, that he was confident groups seeking a referendum would be successful and that no constructive purpose would be served by presenting the two Senate bills for referendum.

Commission Has New Patrol Boat

The Tidewater Fisheries Commission has a new 45′ patrol boat, *Calvert*, to replace one of its older craft, the *Talbot*. The two-man boat, equipped with twin 150 hp. engines giving a speed of 25 mph., is the first of four being constructed by Unger & Mahon to replace old vessels.

George T. Harrison Honored

George T. Harrison, president of Tilghman Packing Co., was honored in May by being named the first citizen of Tilghman Island. Capt. Eddie Gowe was chairman of the testimonial committee and guest speakers included Gov. Lane, Federal Justice T. Alan Goldsborough, Rep. Edward T. Miller, and Ray Steele, general council of NFI.

The program was held on the grounds of the packing company, which was founded in 1897 by the president's father and uncle. Approximately 1500 watermen attended.

Alewives Top April Landings

Fresh fish production during April, in Crisfield, Ocean City and Cambridge, totalled 1,417,600 lbs. while shellfish increased the figure to 1,674,000 lbs. which was 340,600 lbs. more than the March landings. These ports have produced 5,645,200 lbs. of fish and shellfish during the first four months of this year.

Alewives were the leading species in April with 618,500 lbs., most of which were landed at Cambridge. Crab meat lead shellfish production with 149,600 lbs., followed by oysters (shucked) with 90,500 lbs.

Generally, fish have been scarce this season. Trout and croakers were plentiful the first of May but cold and stormy weather stopped the runs.

Rodney Heads Kent Committee

Nelson Rodney, of Rock Hall, has been elected chairman of the Kent County Committee of the Maryland Commercial Watermen's Association.

Maine Fisheries Department Has First Research Boat

The Department of Sea and Shore Fisheries' new boat *Explorer* has completed her trial runs and is now in commission. The craft, which was designed by Bertram Snow of Rockland and built at Stonington Deer Isle Yacht Basin, is 42' long, 12' wide and will be used for all-round experimental fishing, research and wardens' activities. She is skippered by Capt. Ronald Green of Rockland and Thurlow Farmer, Boothbay Harbor, is engineer.

The *Explorer* is equipped with a 25-watt Harvey-Wells radiotelephone and a Bendix depth recorder supplied by The Harris Co., Portland, and has a 165 hp. Gray Diesel which gives her a speed of 11 knots.

The large aft cockpit will accommodate various types of fishing gear. A small winch will supply the power for a scallop drag, shrimp net, and other dragging equipment, the davits for which have already been installed. The galley has an oil burning stove and the pilothouse and main cabin sleeping space for six.

This is the first time in the history of the Department that a fishing type boat has been available for research and conservation. At present she is engaged in gull and cormorant control among the many nesting islands along the coast.

Trawlers for Germany at Rockland Yard

The former General Seafood trawler *Surf* left Rockland May 20 for New York following a complete overhauling at the General Seafood's Yard. Purchased recently by the Army for the ECA program, she will be used by Germany to augment her food supply. A German crew was in New York ready to take over.

Two other trawlers, the *Squall*, also from the General Seafood's fleet, and the *Swell*, sold to Army by Capt. John Roen, are scheduled to leave the yard this month for the same service.

Smelt Study Underway

Seeking a management plan for the smelt fishery, Fred Baird, aquatic biologist of the Department of Sea and Shore Fisheries, is surveying the Spring spawning runs in many of the coastal rivers and streams. The study will determine the extent of annual runs and whether present methods of fishing are injurious. The biologist has marked 200,000 fish in Lincoln and Sagadahoc County streams by removing the dorsal fin, and it is requested that fishermen finding them in their catches report the number, sex, size and where caught, to the Sea and Shore Fisheries Research Department at Boothbay Harbor.

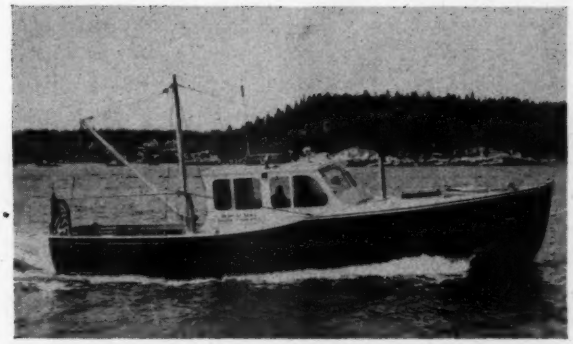
The smelt fishery has considerable value to the State. In 1948, more than a half million pounds were caught commercially and were valued in excess of $150,000.

Shellfish Landings Show Gain

Landings of lobsters, clams, scallops and mussels for the first quarter of 1949 showed an increase of nearly 100,000 lbs. over production for the same period in 1948, according to the Department of Sea and Shore Fisheries, and Rockland was the leading fish port in the State.

The lobster catch was up from 1,330,916 to 1,531,292 lbs.

Capt. Robert Learned, Owls Head, Me., owner of 34' lobster boat "Junaro" which is equipped with 115 hp. Chrysler Crown gasoline engine with 1.43:1 reduction and 17 x 12 Columbian propeller.



The Department of Sea and Shore Fisheries' new 42' research boat, "Explorer", skippered by Capt. Ronald Green of Rockland. She is rigged with various types of fishing gear and equipped with a 165 hp. Gray Diesel, 25-watt Harvey-Wells radiotelephone and Bendix depth recorder.

Clams jumped from 1,512,000 to 2,160,000 lbs. and the scallop catch was up to 187,000 lbs. for an increase of 60,000. The mussel catch more than tripled to 178,000 lbs. The discovery of several new scallop beds and development of a new market for fresh mussels were responsible for the gains by these species.

Redfish and groundfish showed a slight decrease and the smelt catch dropped from 274,000 to 63,000 lbs. because of lack of ice during the Winter. The increased lobster catch was most noticeable in the central coastal areas.

Alewife Run Begins

The annual alewife run in Maine got underway early in May and by the middle of the month 300 bbls. had been delivered to Homeport Fish Co., Rockland, the State's largest pickling plant. Fish are coming into the plant from Damariscotta Mills and the firm's Warren lease.

This entirely new factory, supervised by Douglas Anderson, began operations three weeks after the first concrete was poured for its construction. Twenty-five workers operate the modern production line and the pickled fillets are shipped to Chicago and Los Angeles for packing in glass.

The Company has plans for construction of a sardine plant with 10,000 sq. ft. of floor space on one floor, to be built before the herring run starts. It will have a capacity of 2000 bushels per day.

Five-Year Clam Survey

Boothbay Harbor research stations of the Maine Sea and Shore Fisheries Department and the U. S. Fish & Wildlife Service will be the focal point of a $500,000 five-year survey of East Coast soft and hardshell clam resources. The purpose of the survey is to determine a management plan for the shellfish industry. A five-man crew of aquatic biologists will be stationed at Boothbay Harbor with John B. Glud as chief of the project for the Fish & Wildlife Service.

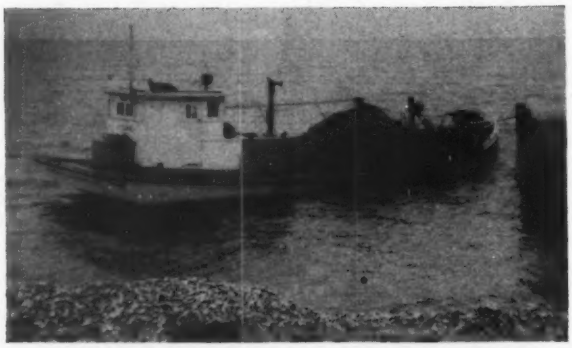
As the investigation covers the seaboard clam producing states, Dr. Charles Fish of the marine laboratory at Narragansett Bay will work on hardshell clams, and at Rutgers University, Dr. Thurlow Nelson will conduct work in the southern states. New York is the only state not participating.

It is planned to determine the effect of commercial digging on certain selected areas and the amount of digging these flats will stand before they reach the point of depletion. There will be periodic surveys to determine productivity. The first test areas will be on the Georgetown side of Sagadahoc Bay.

All findings of the study will be coordinated in Boothbay Harbor, and at the conclusion will be turned over to the states as a management tool for the hard and softshell clam industries.

Navigation Instruments Installed

The sardine carrier *Ruth-Mary*, owned by Bath Canning Co., Bath, has been equipped with a new Master Mariner 80-watt Hudson American radiotelephone, sold by Sargent, Lord & Co. Model 896A Submarine Signal Fathometers are being installed by Sargent-Lord in the draggers *Trinity* and *Queen of Peace*, owned by F. J. O'Hara & Sons, Inc., Portland.



The 53′ oyster dredge "York" owned and skippered by Capt. B. Zibilich of Harvey, La. She is equipped with 165 hp. General Motors Diesel, Twin Disc 2:1 reduction gear, 30 x 22 Federal propeller and Columbian rope.

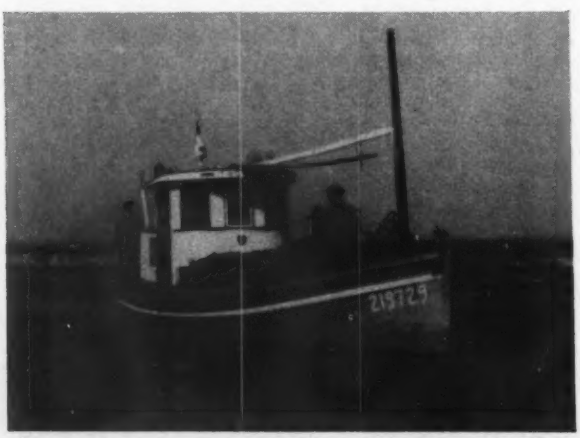
Gulf Fisheries Commission Approved by Congress

President Truman has signed an act giving Congressional consent to a Gulf States Marine Fisheries Commission. The committee which has been working for three years toward a compact embracing the five States bordering on the Gulf of Mexico therefore has tentatively set July 16 as the organizational date with the meeting to be held in Mobile, Ala.

Three representatives and the governor of each State will attend the meeting, provisions of the compact calling for the governors to sign the articles of organization. Following ratification by the legislatures of each State, the Commission then will have authority to work out agreements on seafood regulations, and will be similar to the Atlantic States Marine Fisheries Commission.

Alabama, Florida and Louisiana have enacted the necessary legislation, the Texas Senate has approved a bill and passed it on to the House, and the Mississippi Legislature is expected to follow suit when it convenes in 1950.

The act giving Congressional consent carries an amendment by Rep. William M. Colmer of Mississippi which provides that no additional powers of a proprietary nature, with reference to jurisdiction over the fishing in the waters of these States, shall be given to one State over the other. Thus, one State can not discriminate through regulations against the citizens of another State. This amendment was aimed at the practice of certain States along the Gulf Coast which exact unreasonable fees and licenses from the citizens of other States.



The 42′ oyster boat "Two Sons" owned by Spiro Alesich of Buras, La. She is painted with International paint and equipped with a 115 hp. Chrysler Crown gasoline engine using Esso lubricating oil and a Columbian propeller.

Oyster Bed Work in Progress

The Louisiana Wild Life and Fisheries Department has closed the natural oyster reefs East of the Mississippi River from May 16 to August 16 to avoid depletion. The reefs have been ravaged by storms and fresh water in recent years.

Department Commissioner Ernest S. Clements has reported the purchase of an oyster planting and harvesting machine which can be used to transport live oysters for building new reefs and replenishing those that are worn out. Meanwhile, Edmund J. Foolkes has been awarded a contract to plant 20,000 bbls. of oyster shell cultch in Sister Lake and a like amount in Lake Felicity. The planting will be completed during June and will be done within designated boundaries at the rate of about 200 bbls. per acre.

The Alabama Conservation Department has about completed the planting of 60,000 bbls. of seed oysters and quantities of shells, as part of its program to rebuild the State's oyster industry.

Mississippi has planted 76,000 bbls. of seed oysters, employing 70 boats at a cost of $30,000, and plans to plant 100,000 bbls. of shells on public reefs.

"Dereld" at St. Augustine

The shrimp trawler *Dereld*, owned by Truman Pacetti, left Morgan City last month to join other boats of the Pacetti fleet that are fishing out of St. Augustine, Fla. Capt. Herbert Pacetti was skipper for the trip.

Good Shrimp Catches

Two trawlers landed a total of 100 bbls. of shrimp at Morgan City, La., during the middle of May, making them high boats for the week. They were the *Ponce de Leon*, Capt. Theron Boynt, owner-skipper, 65 bbls.; and *South Sea*, owned and skippered by Capt. Percy Trahan, 35 bbls.

Tonging License Bill Opposed

A bill to boost the oyster tonging license from $1 to $10 met opposition in the Alabama House early this month. It was felt that the legislation would hurt the little fishermen. Therefore, an attempt to commit the measure to the ways and means committee was planned in the hope that it would be killed in committee.

Research Laboratory Bids Sought

The Alabama Conservation Department is seeking bids for construction of the proposed $100,000 seafood research laboratory at Cedar Point in Mobile County. A sum of $15,000, with which to begin construction, already is available, the Department has announced.

Gulf Landings

Total landings at leading ports in Alabama, Mississippi, Louisiana, and including those at Apalachicola, Fla., for April showed increases over March for shrimp, hard crabs and salt-water fish. Indications are that with prices remaining strong and a good demand for small stock, shrimp packers are pushing for as much production as possible during the Spring season.

Shrimp production in April amounted to 10,100 bbls. compared to 6,250 bbls. the preceding month and 15,000 bbls. in April 1948. A total of 34,850 bbls. have been landed during the first four months of this year which, against the corresponding period in 1948, is a drop of 10,300 bbls. Oyster production, on the other hand, is up 56,400 bbls. for the four-month period with 553,000 bbls., and below last April and March 1949; April 1949 —143,900 bbls., March 1949—166,000 bbls., April 1948—161,000 bbls.

Hard crab catches gained 181,100 lbs. over March with an 815,100-lb. total while salt-water fish landings during April amounted to 682,000 lbs., an increase of 86,000 lbs., leading species being red snapper, mullet, sea catfish, spotted sea trout and grouper. No salt-water fish production was reported in Mississippi for this period.

Florida Sponge Industry Seeks Higher Tariff

A delegation from Tarpon Springs traveled to Washington early this month with petitions asking the Government to raise the sponge import tariff and to send experts to Tarpon Springs to study conditions in the industry. The Florida Senate also has called on Congress and the President to increase the tariff from its present 8% to its former 21%.

The problem facing the industry, as some spongers see it, is one of economics rather than of supply or blight, although rumors which were quickly dispelled last month, claimed a green tide sponge disease was sweeping Gulf beds. Many fishermen think that prices paid for American sponges and tariffs on imported sponges are both too low. Therefore, a movement is underway to convince the Federal Government of the need for a higher tariff.

Flashing Mirror Brings Rescue

Using a mirror to flash an SOS, eight St. Petersburg commercial fishermen were rescued last month after drifting for a week on the disabled 42′ *Mary P. Leonis*, owned by Pinellas Seafood Co. When the boat was taken in tow by Capt. Willard Taylor of Venice, Capt. Ralph Spinks and his crew were all in good condition due to an adequate stock of food and water.

Fishermen Urged to Avoid Bombing Area

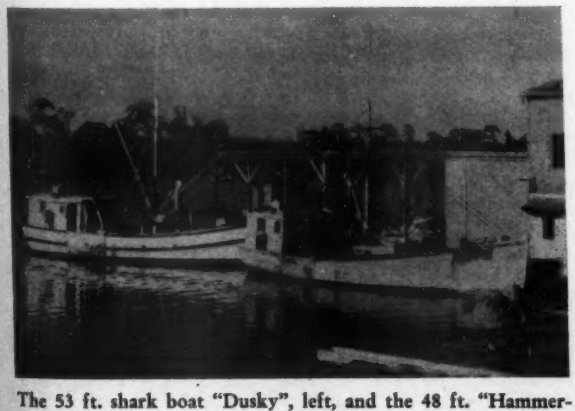
Air Force officials have warned that fishermen must get over their indifference to danger in the Gulf of Mexico bombing area between Tarpon Springs and Cedar Keys. In several instances, bomber crews luckily have spotted fishing boats in the area in time to refrain from bombing. Officials state that, when bombing by radar from high altitudes, the crews might mistake boats for targets.

Closed Trout Season Abolished

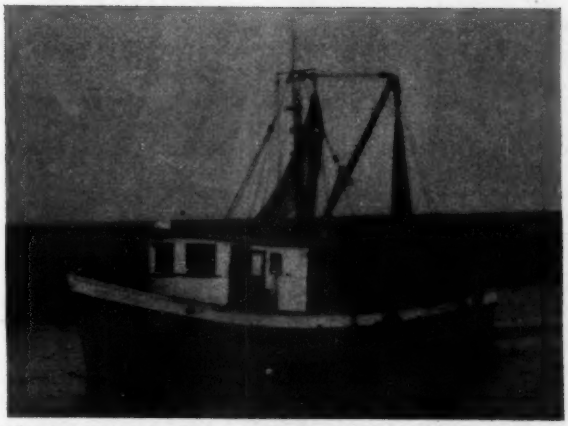
The May 20 to June 20 closed season on salt-water trout has been abolished by legislative act, but the new law will not be effective until mid-July. However, State Conservation Supervisor George Vathis has said that the closed season will not be enforced vigorously this year.

Firm May Process Loggerhead Sponges

It has been reported that a firm interested in processing loggerhead sponges may start experimental work at Tarpon Springs soon. These sponges contain about 50% protein, which might make them a good food for animals. Experiments would be to find methods and equipment necessary to preserve, handle and process the sponges.



The 53 ft. shark boat "Dusky", left, and the 48 ft. "Hammerhead" docked at the Salerno, Fla. plant of Shark Industries, their owner. Both boats are equipped with 110 hp. Gray Diesels and 25-watt Harvey-Wells radiotelephones.



The 50′ shrimper "Saint Catherine" built, owned and skippered by Capt. Stuart T. Atwood of Townsend, Ga. She is equipped with an 80 hp. Lathrop Diesel and Columbian rope.

"Southern Cross" Drops Mexican Registry

The *Southern Cross*, owned by Manuel Simmons of New Smyrna, is the first Florida shrimp boat to return to U. S. registry after fishing under the Mexican flag. A little over a year ago, a large number of Florida shrimpers transferred to Mexican registry to fish off the Yucatan Peninsula. Reports indicate, however, that there have been unfavorable complications in the Mexican operations.

Conch Chief Enemy of Oyster

According to Dr. Philip A. Butler, director of the Fish & Wildlife Service's Pensacola laboratory, the conch is the chief enemy of the Gulf oyster. One of Dr. Butler's projects is to discover some way to get rid of the small snails, although his chief duty is to find where oyster beds can be established along the entire Gulf Coast.

A conch can eat an average of six large oysters a month, and about six small ones a day. Most of the oysters, however, are eaten in their early stages, thus causing rapid depletion of beds.

Lighthouse Discontinuance Protested

Many commercial fishing interests have vigorously opposed a Coast Guard proposal to discontinue the Crooked River Lighthouse at Carrabelle. It has been estimated that such a move would cost the industry many thousands of dollars monthly in lost time. However, the Coast Guard will study all complaints before a decision is made.

Current Legislation

The 1949 session of the Florida Legislature is faced with the usual large assortment of bills to regulate fishing. Some of the more important are designed to: eliminate the Game and Fresh Water Fishing Commission; refund all taxes paid by fishermen for boat fuel; ban the use of donkey engines and power seines from all State waters; and prohibit the harvesting of sponges from July 1 to October 1. Other controversial measures are aimed at controlling net sizes and the use of certain nets in specific localities, and at regulating the taking of shrimp in certain areas.

Floating Laboratory Studying Red Tide

A floating laboratory made its first trip into the Gulf of Mexico the middle of May to study the causes of the fish-killing red tide. A research staff of the Fish & Wildlife Service, with headquarters at Sarasota, is trying to find why millions of fish died along Florida's lower West Coast two years ago.

The staff will make observations and collect specimens in a series of voyages. The scientists will take their boat out one week and work on their findings the next.

Freezing Aboard Boats

(Continued from page 17)

the refrigerated holds at 0°F. The fish were stored aboard the vessel for a period of four weeks after the initial freezing and upon landing were thawed, filleted, packaged, and refrozen under commercial conditions in a local filleting plant. The fish were thawed slowly in air until sufficiently soft for filleting. The yield of skinned fillets on the basis of the whole fish averaged from a low of 28% for the smaller flat head sole to a high of 35.6% for the larger sole. An over all yield of 29% was obtained, a figure comparing favorably with flat fish from nearby banks. The over all average drip for fish prepared in this series was 5.5% drip as compared to 6.2% drip in a sample of frozen fillets purchased on the open market.

The conclusions reached to date on the series of experiments carried out at the Seattle laboratory indicate that: 1. The refreezing of fillets prepared from thawed samples of frozen Alaskan pollock and six species of flounder has not resulted in adverse changes in the color, texture, or flavor of the final product. 2. Frozen fillets prepared from frozen Alaskan pollock and flounder has not resulted in a significant increase on the free drip on thawing the refrozen fillets when compared to that of those frozen in the normal manner. 3. The quality of the fillets produced aboard ship may be significantly lower than those produced ashore due to unfavorable conditions for processing aboard ship compared to shore operations. 4. The quality of fillets produced from fish frozen in the round may be improved significantly by freezing within a minimum time after catching.

Experiments at Boston

At the Boston laboratory, experiments are underway on species of bottom fish common to banks in the Northwest Atlantic. Five species are under study. These are haddock, cod, redfish, pollock, and hake. Samples for study were caught by and prepared on the USFWS research vessel, *Albatross III*, while engaged in survey work on the fishing banks off New England shores. Fish taken in the census trawls were washed after removal from the nets with circulating sea water.

All samples of fish in the round were prepared for freezing well within two hours after being caught. Freezing was accomplished in a high-capacity, still-air room capable of maintaining —20°F with the temperature rising no higher than —10°F with a full load. The fish were laid flat on galvanized pans which were spaced nine inches apart in the lower two-thirds of the freezer for as effective use as possible of thermal currents. The fish were allowed to freeze solid and were not removed from the pans until after eight hours of freezing.

After freezing, the fish were removed from the pans and stored in boxes at 0°F for the remainder of the voyage. Since the trips were of relatively short duration (5-10 days), glazing of the fish, previous to storage, was not considered necessary. For comparison, similar species of fish of approximately the same size and lot were prepared as controls. These fish were eviscerated, washed, and stored in ice as practiced on commercial trawlers. Since the *Albatross III* was fishing experimentally, only small amounts of fish were caught, thus those fish packed in ice were not subjected to as much pressure as those caught under commercial conditions.

Upon arrival at port, the round frozen fish were thawed in circulating chlorinated sea water for approximately three hours. Thereafter, the round fish and iced fish were handled in accordance with existing commercial practices of filleting, brining, packaging, and freezing.

During the filleting operations, yield figures were taken to determine amount of cut out. Fillets were wrapped in cellophane, placed in five-pound master cartons and frozen in a multiplate freezer at —30°F. After freezing, the packaged fillets from the frozen round fish and iced fish were placed in commercial cold storage at 0°F. Samples were withdrawn for examination at monthly intervals. Up to the present time, samples have been in storage for six months. The cut-out figures on fillets prepared from fish frozen in the round indicate that increases of 4-8% are possible, depending on species when compared to cut-out of fillets from iced fish. This increase in yield of fillets from frozen round fish is not surprising when one considers the losses in weight in commercially iced fish. Ellison reported losses in weight up to 12% when fish are iced in trawlers.

Tests Show Good Results

A series of chemical, physical, and organoleptic tests were used as a means of detecting differences that might exist between fillets prepared from frozen round fish versus fillets prepared from iced fish. The trimethylamine test was used to determine adverse bacterial action and the extent of this activity. The trimethylamine content gives a fairly good indication of quality insofar as the history of sanitary quality is concerned. The trimethylamine determinations correlated well with organoleptic judgments. The higher the trimethylamine value the more intense the "fishy odor".

Fillets prepared from fish iced at sea had trimethylamine values ranging from 2-20 times as great as the values of fish from those frozen at sea. Fillets from fish frozen at sea retained their fresh fish odors throughout the test periods and gave very low trimethylamine values. Curve trends from the limited number of trimethylamine tests carried out show a rise in values up to three months of storage followed by a general decline in trimethylamine content. Trimethylamine values from fish frozen at sea showed very little change but followed the same trend.

The drip measurements of samples of fillets from fish frozen at sea were lower for the first three months' storage, thereafter it varied somewhat between the two lots. Percentage drip over the five months' storage period was not considered excessive in either of the two lots; falling in the range of 1-2%.

Trends of amino nitrogen curves follow rather closely those of the trimethylamine curves. Organoleptic observations on fish stored after one month cold storage indicated that fillets from fish frozen at sea had a very definite "fresh from the sea" flavor and odor. On the basis of this observation, salt determinations were carried out on the samples to determine if differences existed in the salt content of the fillets under test. The average of the salt determinations carried out to date indicate an approximate 50% higher salt content than the fillets of fish frozen at sea. Since both groups of fillets were brined in identical solutions for the same period of time, it is conceivable that an explanation of the lower salt content in the iced at sea samples may be accounted for by the leach and pressure action of the melting ice in the fish hold.

Histological sections were made of the muscle of fish fillets prepared from frozen in the round and iced fish after storage for five months. Study of the histological sections indicates no differences in structure of the muscle fibers of either of the samples under study.

Effect of Storage Before Processing

One experiment was carried out on samples of haddock and redfish frozen in the round at sea which were glazed and held 10 weeks before thawing, filleting, and refreezing. Fillets produced from these fish had a somewhat higher drip value than fillets produced from frozen round fish that had been thawed and processed immediately after landing. The salt content was somewhat lower than from fillets prepared from fish that were immediately thawed, which may indicate that in this case the tissues were not capable of absorbing brine as readily. No significant differences could be detected in the trimethylamine values over those fish that were processed immediately after thawing.

There is a possibility that storing fish in the round for periods in excess of 10 weeks may denature the protein to an extent that thawing and refreezing may result in a somewhat higher drip in fish fillets prepared from these fish. In general, the organoleptic determinations based on flavor, texture, and odor for fillets prepared from fish frozen in the round were equal or superior to fillets prepared from iced fish.

If handling and preservation procedures are instituted by the industry for freezing fish in the round at sea a number of advantages would result. These are: 1. Uniformly better quality frozen fish products and possible increase in yield of fish fillets over iced fish. 2. Larger catches of fish, since vessels could stay longer on distant fishing grounds. 3. Utilization of by-products such as livers and viscera which are not now utilized. 4. Less work at sea for the fishermen in that fish would not have to be gutted and iced. 5. Increased efficiency of shore processing plants since fish frozen aboard vessels could be held in commercial cold storage and used as needed within certain limits.

New Bedford Boats Making Large Trash Fish Catches

Twenty New Bedford boats engaging in trash fishing landed 7,194,200 lbs. during May and 3,000,000 lbs. in April. Ocean pout predominated among species caught in April and red hake in May and early June. Three buyers, New Bedford Fish Products Corp., Teddy Veveiros and General Freezer & Storage Company, all of New Bedford, have been paying 75c a hundredweight for the catches.

The trash fish trips, which are a regular dragging operation, last from 12 to 24 hours; fishing is done in Muskegat Channel, a relatively small area between Nantucket and Martha's Vineyard.

Scallop Price Down

Landings at New Bedford during May totalled 13,759,700 lbs. of which scallops accounted for nearly 1,300,000 lbs. Blackback was in greatest supply last month with 1,932,000 lbs. followed by scallops, scrod haddock, yellowtails and mackerel. Yellowtails have been scarce since the first of the year due, it is believed, to a reproduction cycle.

Valued at about $422,500, scallops approximated one half the valuation of all species, $894,852. Almost all prices were comparable with those of the same period last year except in the case of scallops—46c a pound in May 1948 against an average 32c this May and 33½-35c on June 1.

The New Bedford scallop fleet was tied up briefly the latter part of May while union members tried to discover some method of improving the price situation which has harassed scallopers since last Fall. No report of the union meeting was made public, but talk of a fishermen's cooperative, to include fishermen and boatowners, was reported. Seventy-six vessels engaged in scalloping during May, and 152 trips were made.

Quahogs Transplanted

Three thousand bushels of quahogs were removed from the polluted waters of Clark's Cove, New Bedford, and transplanted to other beds in the area last month. City and State cooperated in the project which was directed by Charles L. Wheeler of Falmouth, biologist of the Marine Fisheries Division. Everett Eldridge of Mattapoisett was in charge of transporting the shellfish to other towns. Some were planted in waters surrounding greater New Bedford towns; others went to various parts of Cape Cod.

Buller Assists in Fish Census

Raymond J. Buller, aquatic biologist of the Fish & Wildlife Service, New Bedford, for several years, has been transferred to Woods Hole, Mass., where he will take part in fish census work under Dr. William F. Royce, chief of the Northwest Atlantic Fishing Banks Investigation. He has been replaced by Ernest D. Premetz who will be assisted by George Snow, aquatic biology aid in the New Bedford office since 1946.

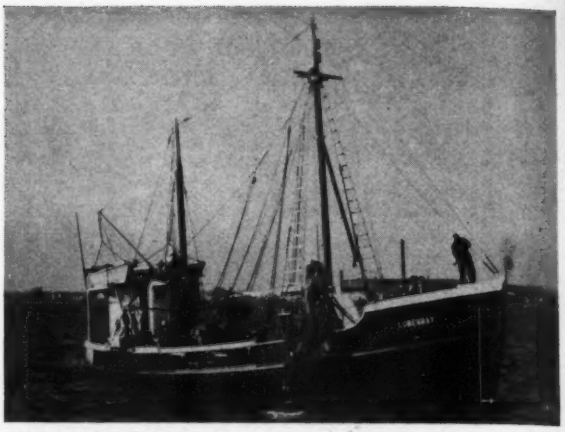
"Smilyn" Makes Maiden Voyage

Capt. Edward O. Sanchez' new dragger *Smilyn* left Hathaway Machinery Co. wharf, Fairhaven, on her maiden trip May 31 with Capt. John Eriksen as skipper. Capt. Sanchez, who had planned earlier to command his vessel, reportedly was on shore preparing the salvaging of the New Bedford fishing boat *Connecticut*, which sank last Fall.

Two Boats Burn, Another Sinks

The 57′ New Bedford scalloper *Sea Hawk*, skippered by Capt. William A. Main of New Bedford and owned by Felix Orlandello of Newton, was on the ways of Palmer Scott and Co. late last month for extensive repairs following a fire.

The boat was off Pollock Rip Light, about 75 miles from home port, when the fire broke out. The crew exhausted fire-extinguishing apparatus and had resorted to a bucket brigade, using sea water, when help arrived several hours later. During a large part of the fight, flames barred them from the engine room, where the deck pump valve was located, and the radio was rendered useless by the fire shortly after it developed.



The 72′8″ New Bedford dragger "Lubenray" owned by Benjamin Baxter, Charles J. Gabriel, and Capt. Shirley Mitchell, Jr., skipper. She is equipped with a 180 hp. Fairbanks-Morse Diesel, Hathaway winch with Kinney clutch, Bethlehem wire rope, New Bedford cordage, Kelvin-White compass, Bludworth direction finder, Submarine Signal Co. Fathometer, and Edson steerer.

Also a victim of fire, following an explosion off Cuttyhunk, the 52′ *Manana* was reported virtually a total loss early this month. H. B. Clark, owner, and John Folger, Jr., both of South Dartmouth, Mass., were rescued by a Coast Guard cutter which towed the *Manana* into Palmer Scott yard.

The New York fishing boat *Leah F.*, which had fished out of New Bedford regularly, sank June 4 after running aground the day before on Nantucket Shoals. Pumps could not control her leaks and she went down off Scituate. Her four-man crew was rescued from a dory by the Coast Guard.

"J. Henry Smith" Repowered

The 48′ dragger *J. Henry Smith*, owned by Joseph J. Jablonski of New Bedford, has a new D-80 Lathrop Diesel.

CONNECTICUT

Clams Shipped to Netherlands

The Fish and Wildlife Service Laboratory at Milford has prepared and shipped to the Netherlands, at the request of that Government, a quantity of marine hard clams. The Netherlands will use these clams to attempt to establish a fishery for the species in their waters.

New Engine Installations

Two fishing boats, the *Catherine*, owned by Burt Ford, Groton, and the *Baby II*, Aldo Bacchiocchi, Noank, recently were powered with new Lathrop DH-200 Diesels. Thomas Cook of Poquonock Bridge has had a Lathrop D-50 Diesel installed in his *Resolute*, and a D-90 Lathrop has been placed in Frank Orso's *Onward* of New Haven, replacing a D-50. Alfred Rebello of Stonington has powered his new trawler with a Lathrop D-60 Diesel.

"Lisboa" Goes Aground

Capt. Joseph Soares' 46′ dragger *Lisboa* was freed from Ellis Reef near Mason's Island on June 1 after being high and dry for three hours. Out of Stonington and bound for Mystic, she ran aground in a fog and was stranded by the receding tide. As the tide returned, three other draggers towed her free.

Block Island Fishing Ban Rescinded

The Army has ordered cancellation of the war-time ban on fishing and other restrictions in Block Island Sound, following a protest against the order by Senator Raymond E. Baldwin of Connecticut. The area is bounded by Weekapaug Point and Charleston Inlet on the Rhode Island shore, and Block Island and Montauk Point on the south.

Compass Installation

(Continued from page 19)

ammeters, horns, heaters, searchlights, floodlights, and all wiring except where plus and minus leads are twisted together.

5. Small iron and steel equipment which is often magnetized such as portable radios, knives, small tools, etc., that may be inadvertently carried about by personnel in the pilothouse.

A pilothouse with exterior well arranged for compass installation is shown in Figure 3.

Compromising Causes of Error

It is by no means always practical to lay down hard and fast rules regarding the various things that cause errors in the magnetic compass. A workable compromise is generally the solution to the problem. An ideal condition would be to keep those things, which throw a magnetic compass off, at a distance of at least five feet from this compass. This is particularly true of vertical iron as mentioned in 1. above, and comparatively large masses of iron as mentioned in 2. above. Iron above or below the compass will not tend to pull the compass card away from its correct heading the way that iron which is in or near the horizontal plane of the compass card will. But, iron above or

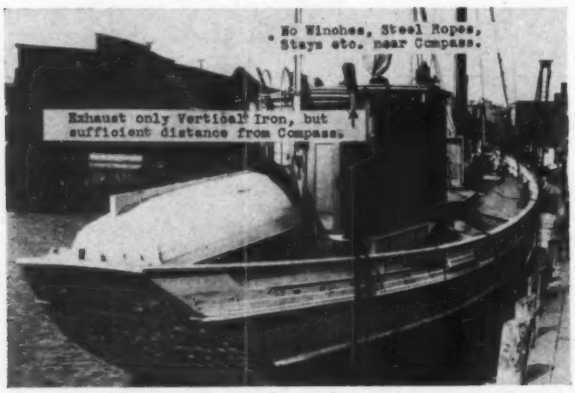


Fig. 3—Pilothouse surroundings good for compass installation.

below the compass will tend to cause the compass card to swing back and forth when the vessel rolls and pitches in a sea. The writer has seen this happen to such an extent that this swinging caused the compass card to turn completely around. Such a condition makes the compass practically worthless in a heavy sea.

Of course, large and small are purely relative terms which can't be pinned down too closely in an article such as this. Also, a small piece of steel may be heavily magnetized and produce more error than a relatively large piece of iron. Likewise, a harmless looking piece of vertical iron pipe or rod may have a relatively tremendous effect on your compass. This is especially true if either the top or bottom end of this vertical pipe or rod is near the compass. Strange as it may seem, the effect on the compass is cut to a minimum if the center point of this vertical pipe or rod is at the level of the compass rather than the top or bottom ends mentioned above. This will be explained in the last part of this paper under theory.

Two experiences of the writer will illustrate some vertically induced magnetism effects. The first, a lobster boat, had her exhaust pipe installed vertically through the pilothouse at a distance of about three feet from the compass. This caused so great an error in the compass that it could not be adjusted out. By adding three feet to this exhaust pipe—upward and heavenward—the vertical center of the exhaust pipe was thereby shifted near enough to the level of the compass card so that the compass could be adjusted.

The second experience has to do with an engine control standard, painted grey with all unpainted parts made of bronze. The top of this standard was conveniently placed near the compass and this brought the top of the standard very close to the level of the compass card. When placed on a north magnetic course this compass read a whole point South of East—an impossible situation. The fresh grey paint covered an iron standard which could not be used to advantage anywhere in the pilot house. Another lesson to be learned from this is that equipment may be doctored up to give the impression that it is bronze or brass throughout when it actually is not. A small pocket compass is very handy for checking such equipment before going to all the expense of installing something which may have to be ripped out.

While on the subject of doctoring up, a word of warning regarding chrome plating is definitely in order. This is very well summed up in the following quotation from a letter by Godfrey Zumbach of E. S. Ritchie & Sons, Inc.:—"Chrome plating itself is something to distrust. In order to obtain a good coating of chrome plating, a base coat of nickel is first applied. Experience has shown that if this base coat of nickel exceeds .002 of an inch and if there is any appreciable amount of plated surface, the object will take on ferrous properties and tend to influence the magnetic compass. This is particularly true nowadays when so many binnacles are chrome plated. As this fact is little known, specific instructions should be given the plater before plating articles to be placed in proximity to the compass".

It is common knowledge that practically all of the nonferrous metals (those containing no iron such as copper, brass, bronze, aluminum, etc.), do not in themselves affect the magnetic compass. Thus if all the equipment mentioned above, as causing compass error, were to be made of nonferrous metals, we would not have to worry about errors caused in the magnetic compass by such equipment. This would not be practical because of cost, structural considerations, etc. However, nonferrous metals should be used where metal is considered to be a must in the vicinity of the compass. For example, bronze should be used in steering wheel mechanisms for all parts within five feet or so of the compass, and for engine room controls within about the same distance from the compass, etc.

Effect of Electric Currents

What is not so generally well known is that any metal (even copper, bronze, aluminum, etc.), exerts a disturbing magnetic influence when a direct current of electricity is made to pass through this metal. For this reason it is wise to keep electronic equipment, as mentioned in 3. above, as far from the compass as practicable. Also, make sure that the power leads to and from this equipment do not pass near the compass. Often such equipment will only affect the compass seriously when in actual operation—that is when electricity is actually flowing through the various circuits. However, usually these aids will be in use during bad weather and this is the time when you will be relying most on your magnetic compass.

The electrical equipment, mentioned in No. 4. above, is generally more dangerous than electronic equipment, in its effect on the compass. This is because electric motors, horns, etc., draw a great deal more current, as a rule, than does electronic equipment and therefore exert more of a disturbing magnetic influence on the compass. Always remember that the wires running to such equipment should not pass near the compass. The influence of these copper wires can be just as bad for the compass as the equipment itself.

Now for a bit of a break in what may seem like a rather discouraging mess. A wire carrying positive electricity sets up one kind of magnetic effect while a wire carrying negative electricity sets up an exactly opposite magnetic effect. Thus, if the positive and negative wires of a direct current line are carefully twisted together, the disturbing effect of such a line on a magnetic compass is practically nothing. This means that when it is necessary to run an electrical circuit near a compass, such as for the installation of a compass light, the effect of this circuit can be practically eliminated by using carefully twisted wires leading to a small socket containing a light bulb with a filament that is as near pin point in size as possible.

Portable equipment, mentioned in No. 5 above, can be very troublesome. The writer has seen a tin can, used as an ash tray, placed near enough the compass to produce error. Not so much error but what it could be adjusted out, but enough to make it necessary to have this can fastened down so that it could not be moved about. Most steel tools become somewhat magnetized with use. This seems to be particularly true of pocket knives.

(Continued on page 32)

The Provincetown Fleet

The Provincetown fleet is rapidly assuming its Summer schedule, with some of the boats remaining out of action for their annual cleaning. While many of the boats still groundfish, others are preparing for the annual run of whiting, expected when warm weather arrives. Small catches of whiting already have been landed.

Extensive repairs to Town Wharf were started early in May with funds appropriated by the Town in expectation of a big year in both commercial and sports fishing. Added facilities are being installed by various companies on the wharf for handling the expected run of tuna.

Already several sports fishermen have landed large striped bass from Lower Cape shores, some as heavy as 17 lbs., although this still is spotty. Pollock can be caught at will, tipping the scales to well over 25 lbs. Whales and porpoises have been sighted in large quantities off the Lower Cape, always a sign that bait is in the neighborhood, which generally foretells the start of the annual runs of commercial fish.

Season's First Big Mackerel Haul

Trap fishermen took the season's first big haul of mackerel from the harbor traps May 9 when more than 90,000 lbs. were landed at Provincetown docks.

Largest catches went to Cape Cod Fisheries, with each of its boats averaging 100 bbls. totalling about 75,000 lbs. The rest went to Sea-Food Packers and Joseph A. Rich Co.

The runs have been spotty so far, but the first mackerel of the season were taken two weeks earlier than last year.

Scalloping Boom

Over 30 sea scallopers from various ports have been operating out of Provincetown this Spring, landing large catches in the shell from beds north of Race Point. At one time several thousand bushels were brought in daily. Joseph A. Rich Co. operated a shucking plant until the market became flooded. Since then, the shellfish have been landed shucked. Fishermen have estimated that the scallop beds are extensive enough to continue producing for several months.

Compass Installation

(Continued from page 30)

Briefly, no iron or steel articles should be left near the magnetic compass unless they are fastened down before the compass is adjusted and left in the same places while the compass is in use.

Now that the area surrounding the magnetic compass has been reasonably freed of any iron or steel for a distance of about five feet in every direction and each electrical circuit near the compass has had its respective plus and minus wires carefully twisted together, the actual installation of the compass itself is a simple job. This is done by lining the compass up so that a straight line connecting the fore and aft lubber lines of the compass will run parallel to the center line, or keel, of the vessel. (See Figure 1.) Mark a point on the vessel as far forward and as far aft as possible, such that these points are the same distance right or left of the vessel's center line as the center of the compass is to be.

If the compass is to be mounted on the center line of the vessel, both the forward and aft marks mentioned above would naturally also be on the center line. Set the compass as nearly as possible by eye and place a flat headed thumb tack, upside down, directly over both the forward and aft lubber lines of the compass. Sight over the two resulting thumb tack points toward the forward mark, previously made, and turn the compass until both thumb tack points line up one behind the other on the mark. Sight the aft mark, previously made, in the same way. The thumb tack points should line up on the aft mark without touching the compass. This last step is a check on the accuracy of the work.

If the work checks, screw the compass securely in place, using sponge rubber under the compass box to cut down vibration, if such vibration is known to be bad. The sponge rubber tends to prolong the life of a compass by absorbing some of the vibration which might otherwise, eventually, crack the jeweled pivot cap or dull the vertical pivot point. (See Fig. 1.)

New York Enacts New Laws Regulating Use of Nets

During the recent legislative session at Albany, a bill was passed prohibiting the use of all kinds of nets in Great River. Another bans haul seines in Moriches, Shinnecock and Mecox Inlets and in the Atlantic Ocean ½ mile off the seaward entrances of these inlets. Both laws become effective July 1.

Other new laws, now in effect, prohibit the use of nets within 1000′ of the beach between Jones Inlet and Oak Beach; increase the minimum size limit of Winter flounders to eight inches; ban haul seines in the Hudson River and the taking of striped bass from December 1 to March 15.

Control, prevention and abatement of pollution in all waters of the State was provided for by legislation.

The bill to prohibit the use of otter trawls within one mile of the beach off the Rockaways died in committee. The law continues to read one-half mile.

N.Y.C. 1948 Fillet Production

The U. S. Fish & Wildlife Service reports that in 1948 the fillet production of 29 firms in New York City amounted to 8,028,000 lbs. valued at $3,047,630. Flounders were the biggest item followed by haddock, cod and hake. Nearly all of the fillets were cut with the skins off.

Shad Season Ends

The Hudson River shad season has ended with the fish moving up the coast in their annual migration. The catch was disappointing to both fishermen and the market as nets were put out too late to get the first run. Some of the first catches were of shad heading back toward the Atlantic after spawning. Harry Lyons reports that he netted 400 boxes less this year than in 1948.

Fishery Council Announces Insignias

Fishery Council has announced that this year's membership insignias, silk screened on masonite, are now ready for distribution. They are late in coming out due to difficulties over copyright.

Fire Island Inlet Dredging Project

The Army Engineers have recommended that $228,000 be spent to dredge the present Fire Island Inlet. This expenditure would provide for a channel 10′ deep and 250′ wide. The project now awaits approval of Congress and the President and the appropriation of the necessary funds.

Boston Trawler Trip for Food Editors

An impressive representation of the Nation's foremost food editors enjoyed a two-day inspection tour of Boston's and Gloucester's shore plants and facilities last month. The visit was arranged through National Fisheries Institute at the instigation of Miss Frances Smith of J. Walter Thompson Co., the agency handling NFI advertising, and with the cooperation of Massachusetts Fisheries Assoc., and Gloucester Fisheries Assoc.

The group toured plants and the New England Fish Exchange on Boston Fish Pier, then was transported to Gloucester aboard the trawler *Arlington* of O'Donnell-Usen Fisheries for a similar inspection of that City's facilities. Seafood meals and short speeches by fisheries officials were tendered the guests during their stay in Gloucester.

Large Haddock

One of the largest haddock to be landed at Boston Fish Pier this year, a 14½-lb. fish, was brought in last month by the trawler *Wild Duck*. Caught on the South Channel grounds, the fish measured 35½″ and was estimated to be about 15 years old.

Charting Submerged Obstacles

The U. S. Fish & Wildlife Service, in co-operation with the Coast & Geodetic Survey, is plotting wrecks and obstacles on the ocean bottom between the New England Coast and Quero Bank. By early May, 34 wrecks had been disclosed. Those not shown on existing charts will be included on revised editions.

New Jersey Oyster Boats Start Planting Work

Early May marked the start of the 1949 oyster planting season in Delaware Bay, with 50 boats leaving Bivalve for the State-owned oyster beds in Delaware Bay. It is estimated that about 100 vessels will be engaged in planting during the May and June season. Oysters are taken from State-owned beds and transferred to private grounds where they remain for two to three years before being harvested for market.

During the opening exodus from Bivalve, an oyster boat owned by Amos Pepper of Bridgeton struck a submerged object and sank almost immediately. Pepper and his crew were quickly rescued by nearby boats.

Heavy Runs of Sea Bass, Porgies

Heavy runs of sea bass and porgies have been reported and sea bass hauls have been good, according to Carl G. Ekstrom of the O. K. Fishermen's Association and Ted Hansen of O. A. Huf Co., both of Ottens Harbor. Twenty boats are now working for the O. K. Association.

Small schools of blues have been sighted between Wildwood and Virginia and many fishermen are preparing for an early bluefish season. Russell Hammer of Wildwood Fisheries, Inc. has revealed that five of the firm's boats are being outfitted for Summer scalloping, a fishery which the company first entered last year.

Big Lobster Catch

A record catch of lobsters for this time of the year, totalling 2,700 lbs., was unloaded at the O. A. Huf dock, Ottens Harbor, Wildwood, May 12. The crustaceans were landed by the *Meta & Margaret*, skippered by Capt. Hans Groon, and were caught off the Wildwood Coast. Average individual weight of the lobsters was 10 lbs.

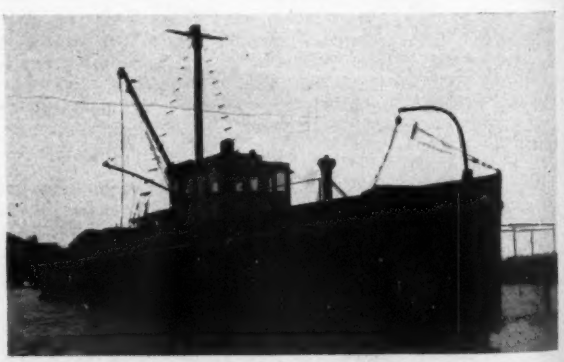
Drift Net Season Extension Rejected

A proposal by Capt. David H. Hart of Cape May City to extend the drift net fishing season in New Jersey for a five-week period has been rejected by the New Jersey Fish and Game Council. Capt. Hart is a member of the Council as a representative of commercial fishing interests.

James Hand of Millville, a Cumberland County member, led the battle against Hart's recommendation, contending that the extension would bring the drift net season into the weakfish spawning period and further harm Delaware Bay fishing.

"Lone Wolf" Is Versatile

Captain Raymond R. Smith of Cape May owns and skippers what is probably one of the most versatile fishing boats on the Atlantic Coast. She is the 77′ twin screw *Lone Wolf* and is rigged to do dragging, gill netting, purse seining, ocean quahog and surf clam dredging, shark fishing, and to serve as a shrimp buy boat or a sardine carrier without making any major changes in her equipment. In addition, Capt. Smith has used



The "Lone Wolf" owned by Capt. Raymond R. Smith, Cape May, N. J., and used for experimental fishing.

the vessel for his hobby, which is marine experimental work conducted at his own expense.

The *Lone Wolf* has a fish hold capacity of 30,000 lbs. and is powered by two 40 hp. Lathrop gasoline engines. There are accommodations for six men in the fo'c's'le and one in the pilothouse. The galley has a Shipmate range and messing facilities for the whole crew at one sitting. Fishing equipment includes a two-drum winch, holding a total of 400 fathoms of ⅜" Roebling wire rope and a 2 hp. Fairbanks-Morse gasoline pursing engine. The boat has 28 x 18 Columbian propeller and Goodrich Cutless bearings.

Two Boats Sink

The 75' oyster boat *Silas T. Webster* sank about one mile off Thompson's Beach during mid-May.

The boat was recently purchased by Wayne Moore and Myers Tarnoff, Philadelphia, Pa., from Anthony Dagostine, and the new owners were preparing to take the craft to Eshmont, Pa. for a general overhauling, after which they were to take her to Florida for shark fishing.

The 110' fishing boat *Sea Hag*, formerly a Navy sub-chaser, sank five miles off Barnegat May 25. Her four-man crew, adrift in a dory, was picked up by the Coast Guard and landed at the Sandy Hook station.

Sturgeon Fishery Re-established

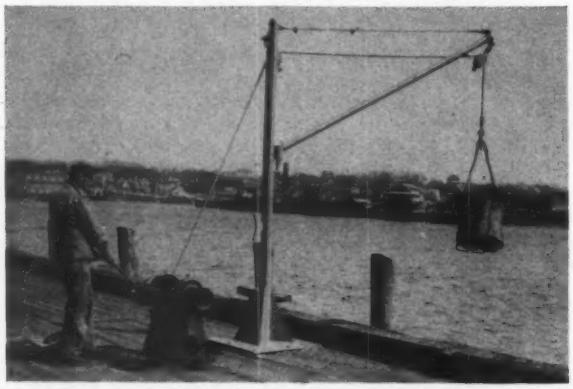
The Delaware River sturgeon fishery is being re-established by a few fishermen on both the Delaware and New Jersey shores in the Newcastle-Pennsville area. The price is high, and the fish seem to have returned in some abundance.

Red Oysters Not Harmful

Dr. Thurlow C. Nelson, biologist at the oyster research laboratory of the New Jersey Agricultural Experiment Station who has made a study of the reddish-colored oysters which appeared in Maurice River Cove oyster beds last Fall, has reported that the bivalves are entirely wholesome. Similar outbreaks of red oysters have been reported in Chesapeake Bay and Puget Sound, Washington, according to Dr. Nelson.

Equipment and Supply Trade News

Additional information, and copies of catalogs and booklets mentioned, may be obtained on request from the addresses listed in the items or by writing Atlantic Fisherman, Goffstown, N. H.



Unloading equipment designed and installed by New England Trawler Equipment Co. for Boston Fish Co., Gloucester, Mass.

New England Designs Unloading Rig

Equipment for unloading fish from small boats not equipped for the work has been designed and installed on the wharf of Boston Fish Co., Gloucester, Mass., by New England Trawler Equipment Co., Chelsea 50, Mass. The rig includes a Model 56840-2 New England six horsepower gasoline hoist with a maximum rope pull of 900 lbs. and a rope speed of 125 feet per minute, and a 1000-lb. mast and boom. The boom swings out far enough to reach the center of a vessel's hatch and can be adjusted to any angle desired. It also swings in over the wharf when emptying the baskets of fish.

The gasoline hoist has watertight covers which can be wedged up slightly to provide ventilation during operation in the rain, or which can be removed during fair weather. With suitable lead blocks, one hoist can serve two booms and provide for simultaneous unloading of two vessels.

Ederer Co. Holds Sales Meeting

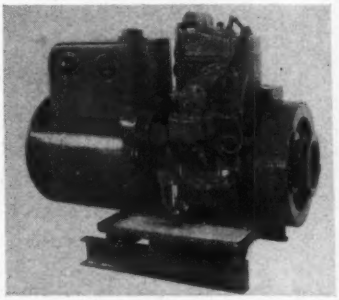
R. J. Ederer Co., 540 Orleans St., Chicago, and its subsidiaries held an annual sales meeting during the same week that National Fisheries Institute met for its Fourth Annual Convention at the Edgewater Beach Hotel in Chicago.

In the net manufacturer's meeting, emphasis was placed on the quality and service of Ederer products for the betterment of the commercial fishing industry. Clarence Ederer, Eugene Ederer, and Walter Conklin presided over the gathering and brought out the importance of maintaining the excellent manufacturer-customer relationship. Clarence Ederer discussed the Company's research with raw materials and its development of linen machinery. Its program is designed to further improve netting quality.

The final day of the Convention and sales meeting was devoted to a tour through the Ederer plant. It was personally conducted by President L. B. Ederer. The sales organization and many customers attending the NFI Convention were invited. Mr. Ederer explained how the operation of newly designed machinery is applied to Ederer netting.

New Universal Marine Electric Plant

Universal Motor Co., Oshkosh, Wisc. has announced production of a new marine type electric plant, Model M1800-MS, for small and medium size fishing boats. Designed for battery charging, it has a capacity of 1750-2000 watts at 32-40 volts.



Universal Marine type battery charger, Model M1800-MS.

A feature of this marine battery charger is its small dimensions, 23-7/16" x 15-3/16" x 19-1/4" and weight of only 186 lbs. Powered with a one-cylinder water-cooled gasoline engine, the generator is coupled closely to the engine crankshaft. Unusually smooth operation is claimed at its operating speed of 1800 rpm. Equipment includes underwriter approved drip pan, fuel pump, flame arrester, structural steel sub-base, electric push button starting, and charging regulator.

Arctic Traveler Refrigerator Units

American Manufacturing Co., Inc., Montgomery, Ala., with sales offices at 53-09 97th Place, Corona, L. I., N. Y., builds the Arctic Travelers, a complete line of packaged refrigerator units, high and low temperatures, for everything from wholesale trucks to giant trailers.

Arctic Traveler units are currently being used to hold or lower temperatures in trucks carrying fish and other perishable foods. American says their most unique buyer is the cross-

(Continued on page 38)

Attending the R. J. Ederer Co. sales meeting in Chicago, front row, left to right: Murray Grabowsky, Ingallston, Mich.; C. R. Spalding, Chicago; R. L. Myers, John Stoker, Tom White, Clarence L. Ederer, all of Philadelphia; E. A. Ederer, Chicago; W. F. Conklin, Chicago; Frank Ryan, Philadelphia; P. J. Block, Milwaukee. Back row, left to right: O. S. Meltzer, Chicago; W. W. Scott, Palacios, Tex.; Henry Ederer, Seattle; Wm. J. Gallagher, Brooklyn, N. Y.; Howard C. Johnson, St. Louis; Del A. Turner, Port Huron, Mich.; Stanley Butte, Biloxi; Everett R. Jodrey, Gloucester, Mass.; Wilfred Doss, Port Huron, Mich.; Fred A. Bernard, Advertising Engineers Corp., Chicago.

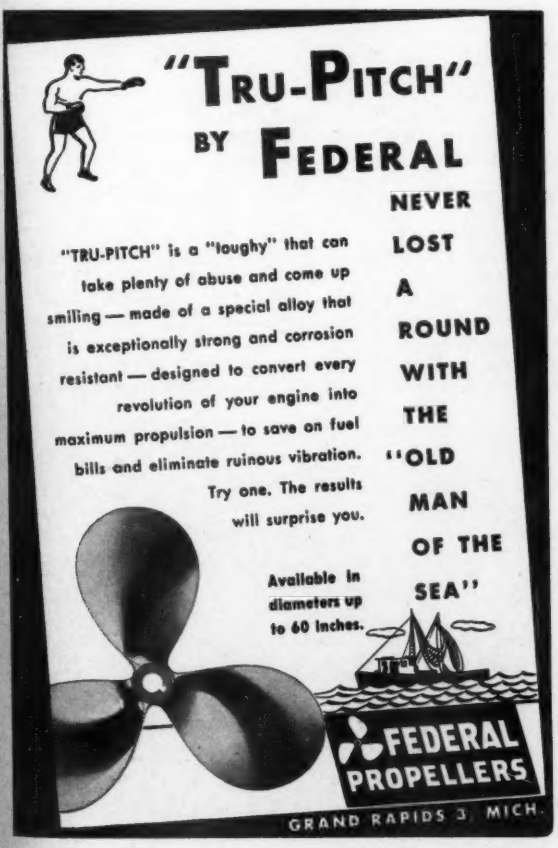
These are but a few of the many fishing boats within our service area powered by Caterpillar

"St. Joseph"	E. Boston, Mass.
"Doris"	New Bedford, Mass.
"Yvonne"	Boston, Mass.
"Priscilla"	Warren, R. I.
"Mary Bernice"	Newport, R. I.
"Elmer S"	Provincetown, Mass.
"Cinnia"	Warren, R. I.
"Mishaum"	New Bedford, Mass.
"Palmers Island"	New Bedford, Mass.
"Lillian B"	Provincetown, Mass.
"Aerolite"	Provincetown, Mass.
"Liberty I"	Provincetown, Mass.
"Cormorant"	Provincetown, Mass.
"Mellina II"	Gloucester, Mass.
"St. Anthony"	S. Dartmouth, Mass.

Some are new owners. Some are old owners. They're all happy with "Cat" Marine Engines and PEMCO SERVICE.

PERKINS-EATON MACHINERY CO.

376 Dorchester Ave., Boston 37 Mass. Tel. SOuth Boston 8-4660



35

FULTON STREET
NEW YORK

THAT MEANS AUGUR'S

AND AUGUR'S MEANS

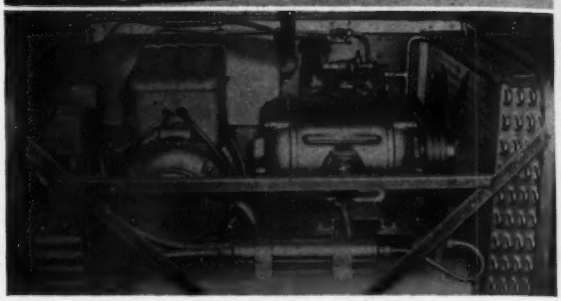
GOOD NETS — RAKES — TONGS

AND PERSONAL ATTENTION TO YOUR ORDER

W. A. AUGUR, Inc.

35 Fulton Street New York 7, N. Y.

BEekman 3-0857



The Arctic Traveler packaged refrigerator unit designed for installation on truck or trailer bodies just over cab, as shown above.

(Continued from page 36)

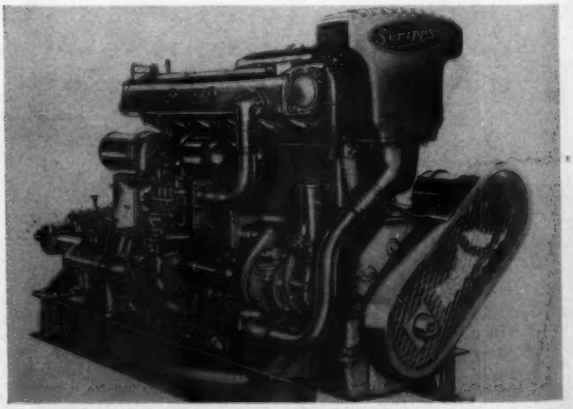
country operator who uses an Arctic Traveler unit to cool a tank of sea water in which he transports live lobsters.

The desire of truckers with inadequate storage space to store refrigerated loads overnight or for longer periods, in closed garages or at the loading platform, was responsible for American's development of dual-control or two-way operation for its units. On the road, an independent gasoline motor drives the generating unit. On stand-still operation, the Arctic Traveler unit is plugged into any handy electric outlet; eliminating noise and toxic fumes.

Operators of wholesale trucks, anxious to eliminate soggy packages caused by melted ice, were responsible for a series of tests in operation that proved Arctic Traveler units could maintain low temperatures in spite of frequent door opening on wholesale delivery routes. The most recent improvement on these units is the addition of a heating and defrosting unit. The unit can defrost ¼" of ice from coils in 12 to 18 minutes.

Scripps Announces New Marine Diesel

Scripps Motor Co., 5817A Lincoln Ave., Detroit 8, Mich., has announced a new, heavy-duty, six-cylinder, four-cycle, solid injection, marine Diesel rated 90 to 185 hp. at 500 to 1600 rpm. This 5¾ x 6 engine with 935 cu. in. piston displacement features a Bosch fuel system, 24-volt electrical system, built-in fresh-water cooling, forced-feed gear pump lubrication to all important parts, seven precision machined main bearings designed for easy replacement, extra heavy-duty plate-type reverse



New Scripps 185 hp. heavy-duty 6-cylinder Diesel, Model 6-935.

gear, and water-cooled reduction gear in ratios of 1.5:1, 2:1, and 3:1.

Standard equipment includes a propeller coupling, exhaust flange, fuel filter, reverse lever, ignition switch, and instrument panel. As optional extras, owners may have a power take-off of either the direct or clutch type, high output generators and a 32-volt electrical system.

Scripps also has a special line of gasoline and small Diesel work boat engines in a range of 30 to 600 hp.

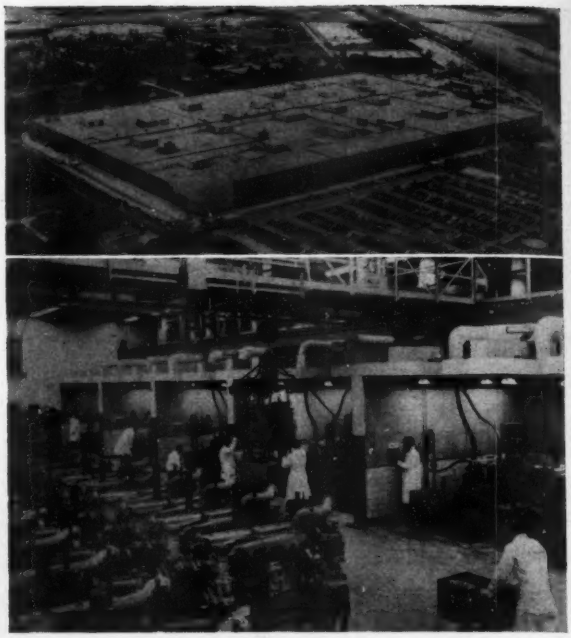
Caterpillar Opens New Diesel Plant

Caterpillar Tractor Company's new Diesel engine factory at Peoria, Ill., one of the largest and most modern in the industry has been geared for full production. Standing 1,120' long and 757' wide, the one story building houses under a single roof 20.6 acres of floor area in which approximately 3300 employees operate. The machine shop alone takes up 425,000 sq. ft. of floor space and contains 1140 machines.

The building, from its conception in 1944, was designed, erected and equipped expressly for the economic manufacture of the Company's full line of Diesel Engines. All facilities to produce these Diesels, merchandised as industrial power units, marine engines and electric sets, are contained within the one structure.

The factory's value is recorded in the time and labor saved by the proximity of casting storage yard, adequate rough storage area inside the building, numerous conveyors to move rough material from storage to the machine lines, an efficient industrial railroad layout and the movement of material through an open inspection area. Its suitable space for storage of finished parts, the efficient application of bridge cranes, fork trucks and other related material control factors has given the factory a flexible and efficient movement of materials and modern mass production.

One man on the engine assembly line may work on 19 different models moving on a conveyor. The assembly area, with 78 machines, consists of three assembly lines for basic engines,



The new Caterpillar Diesel factory at Peoria, Ill., and below, a section of the test room.

two for erection, testing, painting and shipping of industrial engines, a test room and large areas for the storage of finished parts. All three basic engine assembly lines, running parallel, end in the same bay, where a bridge crane is used to remove the engines to a set of gravity roller conveyors along which they are moved into the test room.

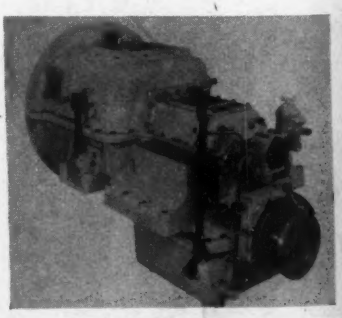
The sound-proofed test room, designed for cleanliness, safety and efficiency, is arranged in two banks of test cells, each bank serviced by a bridge crane to install engines and to remove them to the out-going conveyor to one of the two adjustment floors. There fixtures and gantry cranes expedite necessary tear-down and adjustment work. The 21-celled area has the capacity to test two engines at a time in each cell.

There are 4 miles of conveyors in the plant, in addition to 1400 cranes capable of moving materials weighing from 500 lbs. to 15 tons. About 4800 tons of material are handled monthly.

Auto Engine Works Improves Gears

A newly improved and streamlined Model FG marine reverse gear, and Model EC-8000 reduction gear, are being manufactured by Auto Engine Works, 337 N. Hamline Ave., St. Paul 4, Minn. These units are combined and designed for heavy-duty service in large fishing craft using gasoline or Diesel engines from 300 hp. at 2100 rpm. to 100 hp. at 2000 rpm. Reduction ratio is 3.75:1.

The manufacturer claims that compactness of design eliminates the need for large operating space, makes the gears easy to install and service. Multiple disc clutch, bevel gear reverse, helical spur reduction gears, make operation smooth and quiet. Lubrication is independent of the engine, of both forced and splash type. Greater maneuverability is reported due to 100% reverse . . . the wet clutch system and fast change from one position to another. It is designed for long continuous heavy work in either forward or reverse gear.



Auto Engine Works' combined FG reverse gear and EC-8000 reduction gear.

Frank DeWitt Heads Hook Company

Frank P. DeWitt

Frank P. DeWitt, who was appointed general manager of Shoe Form Co. Inc., Auburn, N. Y. last January, has been made president of the Company to succeed his father, the late Wm. J. (Bill) DeWitt.

Frank has served with the firm without interruption since 1933, and has been active not only in the factory but also on the road. In 1933, he helped establish the branch factory in Mexico, and in 1934, visited the manufacturing branches in England and France for the purpose of introducing new methods of manufacture that had been developed by the parent company in Auburn.

In the following years, he gathered a wide experience in selling as certain territories were turned over to him. During the war, the Bill DeWitt Div. was under his management and he negotiated contracts in connection with Lend-Lease and War Production. During this time, Frank was made assistant secretary-treasurer of the corporation. In the years since the war, he has been directly in charge of manufacture and sale of fishing tackle, together with many management details of the firm.

Du Pont Makes Nylon Leader Material

The Du Pont Co., Wilmington 98, Del., is producing commercial quantities of nylon monofilament in 50 and 60-lb. tests to meet certain requirements in leader material for salt-water sport and commercial fishermen. Strong, flexible and resistant to kinking, the nylon leader material is made in 10 and 100-yard coils, while tackle manufacturers are producing ready-to-use leaders and snelled hooks.

New Wesco Cod-End Protector

A new type, specially treated hide for trawl nets, known as the Wesco cod-end protector, is being marketed by Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston 10, Mass.

Tested under actual fishing conditions for 3 years, the new product has exceptional good wearing qualities, having given from 8 to 14 months service. A new tanning process which removes all bacteria from the hide, virtually eliminates the possibility of deterioration, and makes a pliable product that is clean and easy to handle.

The Wesco protector can be left on the net indefinitely, thus doing away with the need for carrying a barrel of bluestone or copper sulphate as is necessary to preserve the conventional green salted hide. As a result, the use of the Wesco protector saves handling time and eliminates the hazards of preserving facilities.

Because of its long life, the protector materially lessens the possibility of losing a bag full of fish from hide failure, and it's claimed that it will outlast up to 15 cod ends.

The Westerbeke Fishing Gear Co. Wesco cod-end protector aboard the 110′ trawler "Bonnie", owned by Genoa Fisheries, Boston.

Fish Landings for Month of May

(Hailing fares. Figure after name indicates number of trips.)

BOSTON

Acme (8)	125,100	Maine (3)	326,500
Addie Mae (8)	112,200	Margaret & Marie (2)	20,000
Adventure (1)	90,700	Margee & Pat II (1)	6,700
Agatha & Patricia (2)	117,900	Maria Del Soccorsa (7)	93,000
Alphonso (5)	54,500	Maria Guiseppe (7)	38,700
Annie & Josie (7)	80,800	Marietta & Mary (1)	50,200
Annie & Josie II (1)	16,300	Maris Stella (3)	215,100
Arlington (3)	420,100	Marjorie (1)	3,000
Assertive (2)	140,400	Marjorie Parker (2)	105,500
Atlantic (3)	286,300	Mary & Jennie (3)	20,900
Ave Maria (Dragger) (7)	101,700	Mary J. Hayes (3)	185,800
Barbara C. Angell (2)	171,700	Mary & Joan (2)	125,100
Bay (3)	228,600	Mary M. (3)	46,700
Billow (3)	275,200	M. C. Ballard (3)	296,300
Bonnie (3)	327,900	Michael G. (8)	111,500
Breaker (3)	272,200	Michigan (3)	289,500
Breeze (2)	210,000	Nancy B. (2)	72,100
Calm (3)	295,800	Neptune (3)	285,700
Cambridge (2)	153,800	Noreen (1)	70,000
Cape Cod (2)	29,400	Nova Antonio (5)	20,600
Carmela Maria (Dragger) (3)	59,300	Ohio (3)	253,000
Carmela Maria (L. Tr'ler) (6)	36,500	Olympia (2)	117,500
Carole June (2)	166,500	Olympia La Rosa (4)	213,600
Catherine B. (Dragger) (4)	209,400	Phantom (3)	204,400
Catherine B. (L. Tr'ler) (4)	18,000	Pilhasca (2)	23,100
Charlotte M. (3)	198,200	Pioneer (3)	45,100
Clipper (3)	208,900	Plymouth (1)	100,700
Crest (3)	450,700	Princess (9)	145,900
Diana C. (5)	110,200	Priscilla (3)	10,000
Dorchester (3)	269,600	Quincy (3)	323,600
Drift (2)	347,000	Racer (2)	220,500
Eddie & Lulu M. (6)	36,700	Red Jacket (3)	365,400
Elizabeth B. (3)	287,100	Richard J. Nunan (3)	146,700
Esther M. (3)	347,000	Robert & Edwin (7)	65,900
Estrela (3)	209,100	Roma (8)	85,400
Eva Martin (4)	26,100	Rosalie D. Morse (1)	74,500
Famiglia (3)	101,700	Rose Mary (6)	75,000
Fanny F. Hickey (5)	82,000	Rosie (6)	97,600
Flying Cloud (3)	412,700	Rush (3)	317,700
4-C-677 (1)	700	St. Ann (6)	42,500
4-C-688 (3)	8,400	St. Francis (4)	96,800
4-C-887 (1)	5,300	St. Joseph (L. Tr'ler) (5)	28,000
4-D-256 (1)	600	St. Michael Angelo (4)	11,600
4-E-885 (2)	5,100	St. Theresa (4)	31,400
4-G-370 (4)	21,000	Sacred Heart (4)	49,100
4-G-673 (5)	21,200	San Antonio (6)	40,500
Francesca (7)	42,100	San Calogero (6)	89,900
Geraldine & Phyllis (3)	216,000	Santa Rita (6)	29,300
Hazel B. (2)	110,400	Savoia (5)	30,400
Hornet (4)	53,800	Sea Fox (2)	25,200
J. B. Junior (2)	158,000	Sebastiano & Figli (5)	64,200
J. B. Junior II (6)	59,800	Stanley B. Butler (3)	258,900
Joe D'Ambrosio (5)	43,900	Surge (3)	353,500
Josephine (4)	21,200	Texas (3)	203,700
Josephine Ess (2)	294,900	Thomas Whalen (2)	159,200
Josephine F. (5)	23,600	Three of Us (1)	7,400
Josephine P. II (2)	64,900	Triton (3)	209,300
Josie M. (4)	38,300	Two Pals (1)	3,300
Junojaes (1)	69,000	Venture (2)	120,000
Leonarda (4)	26,300	Victory II (5)	58,900
Liberty Belle (2)	28,500	Wave (3)	424,500
Little Nancy (4)	181,800	Weymouth (2)	175,500
Lorine III (2)	86,300	Wild Duck (1)	61,500
Louise (2)	123,000	Wm. J. O'Brien (2)	214,500
Lucky Star (3)	270,900	Winchester (4)	382,700
Lynn (3)	236,700	Winthrop (4)	290,100
Mabel Mae (2)	116,500	Yankee (5)	72,800

Scallop Landings (Gallons)

Marie & Katherine (1)	1,000	Mary R. Mullins (1)	1,000

GLOUCESTER

Agatha & Patricia (1)	58,000	Chebeague (5)	156,000
Albatross (2)	341,000	Cigar Joe (3)	182,000
Alden (1)	65,000	Columbia (2)	450,000
Alvan T. Fuller (3)	331,000	Conquest (2)	332,000
American Eagle (4)	196,500	Corinthian (2)	415,000
Angie & Florence (3)	196,000	Curlew (1)	190,000
Anna Guarino (5)	44,500	Dale (1)	18,000
Annie (3)	29,000	Dartmouth (2)	220,000
Annie II (5)	30,000	Dolphin (Glou.) (2)	285,000
Anthony & Josephine (8)	98,00	Dolphin (South) (1)	77,000
Antietam (1)	91,000	Doris F. Amero (3)	242,000
Ariel (6)	65,000	Eastern Point (4)	137,500
Atlantic (3)	183,500	Edith L. Boudreau (1)	68,000
Austin W. (1)	55,000	Ellen & Jean (1)	10,000
Ave Maria (2)	241,000	Emily Brown (2)	397,000
Babe Sears (3)	382,000	Eva G. Clark (4)	6,500
Baby Rose (2)	269,000	Evalina M. Goulart (2)	152,000
Barbara C. (2)	17,000	Eva II (4)	19,000
Benjamin C. (2)	416,000	Evelyn A. (1)	3,000
Bernie & Bessie (4)	81,500	Evelyn G. Sears (2)	62,500
B. Estelle Burke (2)	190,000	Falcon (9)	93,800
Bethulia (4)	122,000	Felicia (3)	628,500
Bonaventure (1)	172,500	Florence & Lee (2)	379,000
California (1)	50,000	Frances R. (4)	177,000
Calista D. Morrill (5)	28,000	Frankie & Rose (3)	153,000
Capt. Drum (1)	55,000	Gaetano S. (2)	285,000
Carlo & Vince (1)	60,000	Gertrude E. (4)	27,500
Carmela Maria (1)	1,000	G. N. Soffron (3)	275,000
Carol Ann (2)	269,000	Golden Eagle (2)	292,000
Caroline & Mary (3)	519,000	Gov. Al Smith (2)	211,000
Catherine Amirault (2)	260,000	Helen M. (2)	187,000
Hilda Garston (2)	463,500	Paul Howard (2)	280,000
Holy Family (3)	402,000	Philip & Grace (2)	262,000
Hornet (1)	3,500	Phyllis & Mary (4)	119,000
Ida & Joseph (1)	70,000	Pilgrim (2)	354,200
Immaculate Conception (4)	161,000	P. K. Hunt (1)	98,000
Irma Virginia (4)	41,000	Pollyanna (2)	245,000
Jackie B. (1)	45,000	Portugal (1)	72,000
Jackson & Arthur (9)	56,000	Positive (2)	330,000
J. B. Junior (4)	151,000	Powhatan (1)	60,000
Jennie & Lucia (1)	65,000	Priscilla (1)	3,500
Johnny Baby (3)	27,000	Puritan (2)	309,000
Jorgina Silveira (1)	45,000	Raymonde (2)	145,000
Joseph & Lucia (2)	330,000	R. Eugene Ashley (2)	191,000
Joseph S. Mattos (2)	186,000	Rita B. (2)	229,000
Josie II (4)	69,000	Roma II (5)	3,500
Julie Ann (3)	548,000	Ronald & Mary Jane (2)	330,000
Killarney (2)	383,000	Rose & Lucy (1)	50,000
Kingfisher (2)	457,000	Rosemarie (1)	70,000
Kurta (5)	15,000	Rosemarie V. (2)	101,000
Lady of Good Voyage (2)	181,500	Rosie & Gracie (2)	68,000
Leonard & Nancy (2)	155,000	Ruth E. (1)	3,000
Leretha (2)	135,000	St. Anthony (2)	235,000
Lois T. (1)	30,000	St. Christopher (2)	307,000
Lorine III (2)	99,400	St. John (4)	35,000
Lousam (1)	2,000	St. Joseph (6)	259,500
Lucretia (5)	21,000	St. Nicholas (2)	380,000
Madame X (5)	70,500	St. Peter (3)	163,000
Madonna (4)	139,000	St. Peter II (1)	146,000
Magellan (2)	150,000	St. Providenza (6)	69,000
Manuel P. Domingos (1)	131,000	St. Rosalie (3)	179,000
Margaret Marie (3)	40,000	St. Victoria (3)	358,500
Maria Immaculata (5)	121,000	Sacred Heart (7)	81,000
Marie & Winifred (2)	130,000	Salvatore & Grace (2)	150,000
Marietta & Mary (2)	75,000	Santa Maria (1)	85,000
Marion & Alice (3)	361,000	Santo Antonino (1)	45,000
Marjorie (1)	55,000	Sarah J. (1)	50,000
Marsala (3)	147,000	Sea Hawk (1)	55,000
Mary (8)	72,500	Sea King (1)	38,000
Mary A. (3)	146,000	Sea Queen (2)	145,000
Mary E. (2)	15,000	Sea Rambler (2)	89,000
Mary F. Curtis (2)	156,000	Sebastiana C. (2)	120,000
Mary Jane (2)	164,000	Serafina N. (1)	50,000
Mary & Josephine (3)	645,000	Serafina II (4)	143,000
Mary M. (1)	27,000	Skilligolee (3)	184,000
Mary Rose (3)	349,000	South Sea (2)	72,000
Mary W. (1)	73,000	Sunlight (2)	280,000
Mayflower (2)	32,000	Superior (1)	117,000
Mother Ann (1)	270,000	Sylvester Whalen (2)	364,000
Nancy B. (2)	116,000	Theresa M. Boudreau (2)	427,500
Nancy F. (4)	200,000	Theresa R. (2)	295,000
Natale III (1)	85,000	Thomas D. (2)	300,000
New Bay (2)	251,500	Three Sisters (1)	25,000
Noah A. (4)	33,000	Tina B. (3)	216,000
No More (7)	75,500	Trimembral (8)	84,700
North Star (2)	60,000	Two Pals (5)	65,000
Novelty (7)	67,000	Uncle Guy (1)	51,000
Nyoda (3)	165,000	We Three (5)	63,000
Olympia (1)	53,000	Whitestone (2)	132,000
Pam Ann (2)	161,000	Win Story (5)	154,000

Scallop Landings (Gallons)

Victoria (1)	260

NEW BEDFORD

Adventurer (4)	81,300	Growler (3)	108,700
Alden (1)	6,500	Harmony (5)	88,400
Alice May (1)	2,500	Helen Mae (2)	7,500
Alva (4)	36,800	Hope (4)	44,700
Angenette (2)	9,400	Huntington Sanford (4)	21,400
Ann & Marie (4)	18,300	Invader (3)	69,500
Anna C. Perry (4)	58,900	Irene (4)	37,400
Annie Louise (5)	47,900	Irene & Walter (2)	12,600
Annie M. Jackson (1)	8,500	Ivanhoe (4)	155,800
Arnold (3)	67,500	Jacintha (3)	136,800
Arthur L. (3)	51,100	Jackie B. (2)	28,000
Barbara M. (4)	77,600	Janet Elise (3)	23,500
Bernice (2)	11,500	Jennie & Lucia (1)	3,500
Capt. Deebold (2)	34,500	J. Henry Smith (2)	11,700
Carl Henry (2)	110,800	Joan & Ursula (4)	211,900
Carl J. (3)	21,000	John G. Murley (1)	76,000
Carlo & Vince (1)	14,000	Johnny Ryan (1)	13,000
Catherine T. (2)	86,400	Josephine & Mary (1)	34,900
Charles E. Beckman (3)	52,000	June Bride (3)	77,400
Christina J. (3)	149,100	Junojaes (2)	115,000
Christine & Dan (1)	10,000	Kelbarsam (4)	56,500
Clifton (1)	8,100	Liberty (1)	6,000
Clinton (3)	36,500	Little Chief (1)	4,500
Connie F. (4)	86,500	Louise (2)	99,200
Conquest (2)	17,200	Lucky (1)	5,300
Doris Gertrude (1)	3,000	Madeline (3)	21,100
Driftwood (3)	26,100	Marg-E. (3)	13,000
Ebeneezer (5)	29,800	Maria Julia (3)	22,500
Edith (4)	51,900	Marjorie (1)	1,200
Elva (1)	3,500	Martha E. Murley (3)	90,800
Elva & Estelle (4)	113,800	Mary Anne (2)	127,000
Etta K. (3)	46,000	Mary E. (1)	4,500
Eugene & Rose (3)	83,500	Mary & Joan (1)	43,700
Fairweather (1)	4,800	Minnie V. (4)	50,900
Fan & Mary (1)	12,500	Molly & Jane (4)	61,600
Five Sisters (3)	15,700	Nellie (3)	22,000
Fred Henry (1)	2,500	New England (1)	4,200
Gannett (2)	127,700	Noreen (2)	126,200
Gladys & Mary (3)	141,600	Palmers Island (1)	3,200
Gloucester (2)	35,400	Papoose (1)	6,000

(Continued on page 44)

CRUSHED ICE

COSTS LESS WHEN G-W's ABOARD

You get all the crushed ice you need, when you need it, graded in sizes to suit your requirements, when you have a G-W Ice Breaker aboard or at wharfside. Besides, you save money: you crush ice when you're ready for it, save shrinkage losses; sturdy steel body construction, means long, trouble-free life.

Heavy duty Breaker, illustrated, crushes up to 50 tons per hour. Other economical models available. Write today for new Bulletin No. 482 for complete information on G-W Ice Breakers.

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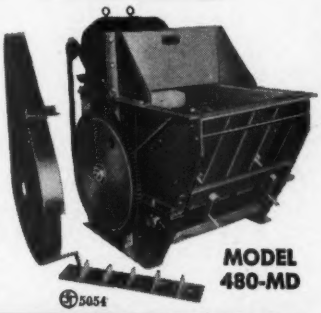

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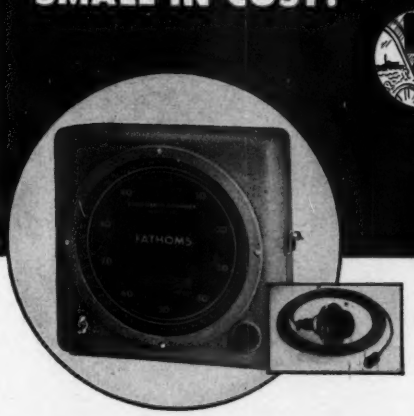

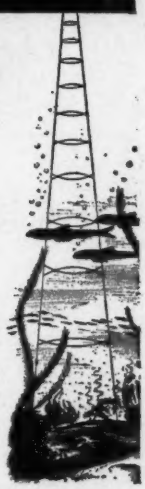

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Here is a navigation instrument priced within the reach of every boat owner—yet engineered to allow ample reserve for positive function at 100 fathoms. Only the KAAR ES-29 gives you all these features:

- Long, easy-to-read scale (approximately 30")
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- Special electronic gate circuit to increase readability over entire usable range
- All parts are standard, obtainable anywhere
- Complete replacement kit costs but a few dollars
- Equipment is rugged, built to stand up under heaviest weather conditions
- Unit is simple to install, having only one transducer and single compact indicator unit with internal power supply

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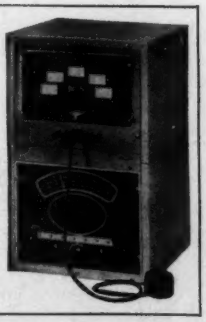
Accepted as standard equipment everywhere. Finest in the field.

KAAR 20, 50, 100 Watt Radiotelephones
Rugged, reliable, exceptionally fine radio equipment. You can depend on KAAR.



KAAR ENGINEERING CO.

KAAR ENGINEERING CO.

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Palo Alto, California

(Continued from page 42)

Pauline H. (2)	139,300	Southern Cross (3)	32,500
Penguin (4)	139,700	Stanley B. Butler (1)	72,900
Petrel (3)	15,100	Stormy Weather (1)	7,800
Phyllis J. (5)	61,200	Sun Ray (1)	1,600
Portugal (2)	14,200	Susie O. Carver (5)	69,000
Princess (1)	6,500	Theresa (Conn.) (2)	20,000
Pvt. Frank Kessler (3)	31,900	Theresa & Jean (1)	63,100
Prosperity (4)	46,500	Two Brothers (6)	64,100
Quest (3)	23,300	Two Brothers (R.I.) (3)	39,800
Reliance (1)	5,500	Victor Johnson (4)	106,400
Reneva (1)	10,200	Victory II (1)	6,000
Rose Jarvis (1)	9,400	Viking (5)	178,100
Rosemary (1)	2,000	Viking (Chilmark) (1)	3,700
Russell S. (1)	8,600	Wamsutta (2)	93,800
Ruth M. (2)	6,700	Whaler (3)	144,000
Sandra & Jean (1)	27,600	Wild Duck (2)	102,000
Santina (1)	5,500	William B. (1)	4,500
Santo Antonino (1)	3,000	William Chesebrough (2)	11,400
Sea Ranger (4)	155,900	Winifred M. (3)	21,900
Sister Alice (1)	8,300	Yankee (1)	23,300
Solveig J. (3)	164,900		

Scallop Landings (Gallons)

Abram H. (2)	2,000	Maria-Julia (1)	1,000
Adele K. (3)	3,200	Marie & Katherine (2)	1,350
Agda (2)	2,000	Marmax (3)	2,325
Alice Hathaway (1)	1,000	Mary Canas (2)	1,800
Alpar (3)	3,300	Mary D'Eon (3)	2,600
Amelia (2)	2,000	Mary J. Landry (1)	1,000
Antonina (2)	2,000	Mary & Julia (1)	850
Antonio (2)	1,900	Mary R. Mullins (1)	950
Barbara (2)	1,950	Mary Tapper (2)	2,100
Bobby & Harvey (3)	3,000	Moonlight (3)	3,000
Bright Star (1)	1,000	Muriel & Russell (2)	2,000
Camden (3)	3,100	New Bedford (2)	2,000
Carol & Estelle (3)	3,000	New Dawn (1)	600
Catherine & Mary (2)	2,000	Newfoundland (2)	1,950
Charles S. Ashley (2)	2,000	Olive M. Williams (2)	2,000
Dagny (3)	3,000	Palestine (2)	2,000
Doris & Gertrude (3)	3,000	Pearl Harbor (2)	2,050
Dorothy & Mary (1)	1,000	Pelican (2)	2,000
Elizabeth M. (2)	2,150	Porpoise (2)	2,000
Eunice-Lilian (2)	1,900	Ramona (1)	1,000
Flamingo (3)	3,200	Red Start (3)	3,000
Fleet Wing (2)	1,800	Richard Lance (1)	600
Four Sisters (2)	1,900	Rockaway Belle (1)	700
Francis J. Manta (2)	2,000	R. W. Griffin, Jr. (1)	950
Friendship (3)	3,000	St. Ann (1)	1,000
Gay Head (2)	1,200	Shannon (1)	665
Irene & Mabel (2)	1,425	Smilyn (1)	85
Janet & Jean (3)	2,850	Sonny & Joyce (2)	580
Jerry & Jimmy (3)	2,950	The Friars (3)	3,000
Kingfisher (2)	2,000	Theresa A. (1)	700
Lainee K. (3)	1,305	Ursula M. Norton (3)	3,200
Liboria C. (2)	2,000	Venture I (2)	1,900
Linus S. Eldridge (2)	2,150	Virginia & Joan (2)	1,800
Louis A. Thebaud (3)	3,000	Whaling City (1)	750
Lubenray (2)	2,000	Wm. D. Eldridge (3)	3,000
Magellan (1)	245	Wm. H. Killigrew (2)	2,100
Malene & Marie (3)	3,300	Wm. J. Landry (1)	100
Malvina B. (2)	2,200		

NEW YORK

Beatrice & Ida (2)	51,000	Lady of Good Voyage (1)	41,200
Beatrice & Rose (1)	37,000	Leah F. (2)	71,000
Blackhawk (2)	42,000	Paolina (2)	49,000
Buzz & Billy (1)	27,500	Portugal (1)	41,000
Edith L. Boudreau (1)	45,700	Rosalie F. (1)	15,900
Falcon (1)	10,200	S-31 (1)	8,000
Felicia (2)	96,500	Sunapee (2)	47,000
John G. Murley (1)	65,000	Teresa & Jean (1)	41,000
Katie D. (3)	154,600	Virginia (2)	93,500

Scallop Landings (Gallons)

Antonina (1)	600	Quest (1)	800
Bright Moon (1)	700	Rainbow (1)	800
Catherine C. (1)	900	Richard Lance (1)	800
Florence B. (1)	1,000	Rockaway Belle (1)	700
Friendship (1)	900	St. Rita (1)	800
Gloria F. (1)	900	Saint Treza (1)	275
Gud Kay (1)	800	Sea Hag (2)	600
Hazel S. (1)	550	Shannon (1)	700
Lady Stuart (1)	800	Sonya (1)	600
Major J. Casey (1)	900	Sunapee (1)	700
Marjorie M. (1)	600	Theresa A. (1)	750
Mary (1)	800	Trio (2)	1,300
Midway (1)	600	Venture (2)	1,300
New Dawn (1)	800	Victoria (2)	1,400
Norseman (2)	1,800	Whaling City (1)	1,000
Peerless (2)	1,200	Wm. D. Mangold (2)	1,000

PORTLAND

Alice Ann (2)	81,000	Lawson (2)	116,000
Alice M. Doughty (3)	104,000	Madaline B. (1)	1,000
Althea (1)	40,000	Manchinock (2)	142,000
Andarte (2)	195,000	Mary & Helen (4)	21,000
Belle Isle (1)	44,000	Mocking Bird (2)	231,000
Bettina (3)	260,000	Myrt (1)	3,000
Cara Cara (3)	342,000	Nautilus (2)	109,000
Carolyn & Priscilla (2)	189,000	Nora Sawyer (5)	86,000
Chanco (1)	50,000	Notre Dame (1)	46,000
Cherokee (3)	127,000	Randolyn (2)	172,000
Courier (2)	118,000	St. Michale (5)	28,000
Crescent (10)	165,000	Sarah J. (1)	82,000
Elinor & Jean (4)	134,000	Vagabond (2)	148,000
Ethelina (2)	150,000	Vandal (2)	162,000
Evzone (1)	10,000	Vida E. (5)	60,000
Lawrence Scola (5)	24,000	Willard Daggett (1)	29,000

Lighthouse Service

(Continued from page 15)

it was dug up and replaced, only a few nicks giving evidence of its long stay underground.

There are many kinds of light towers, each one adapted to the coast and climate where it is located. The earliest lighthouses were tall masonry towers, but now steel and concrete frequently are used. Designed and built a century ago, six, tall, pyramidal-shaped lighthouses, of open framework wrought iron construction, warn shipping away from the perilous Florida Reefs skirting the coastline for 145 miles, from Miami to Key West.

While the very earliest lighthouses known guided ships merely by means of open fires of wood built at their tops, all early American lighthouses had some form of lantern with an oil lamp or lamps within. At first the lamps were merely set inside a lantern made of panes of glass. To procure a more brilliant light, the number of lamps was increased and a polished reflector placed behind each.

The first really brilliant light, for lighthouse purposes, was not produced until the discoveries of the French Engineer, Fresnel, resulted in the designing and construction of lenses in echelon in the middle 1800's. These cut glass prisms collect and concentrate a very high percentage of the light emitted by the lamp and direct it out along a useful horizontal beam. The Fresnel lens also made possible the flashing light which now gives distinctive characteristics to the lighthouses along our coasts.

The introduction of kerosene or coal oil was another important step resulting in more brilliant lights, and from kerosene the incandescent oil vapor light was developed. The incandescent oil vapor lamp placed inside a carefully designed lens of great size produced the most powerful light known up to the time of the general introduction of electricity which, in lighthouse work, was undertaken in 1916.

Another outstanding feature of recent lighthouse work is the substantial yearly increase in the number of automatic or unattended lights. These unattended lights depend for their effectiveness upon the perfection of automatic apparatus, and when connected with a sufficient gas supply may burn for long periods of time without attention. Electricity, supplied by primary cell batteries, is also now extensively used for minor lights. This type of small electric light, functioning for considerable periods of time without attention, has become practicable for Lighthouse Service purposes partly through the development of the lamp changer. This is an apparatus which automatically replaces burned out bulbs.

Where a lighthouse displays a flashing light, the flashes most likely are being produced by the revolving of the entire lens. In the past the lighthouse keepers wound up heavy weights every few hours, and these weights attached to a clockwork device kept the lenses revolving at a uniform rate. Now, the most modern lights have electric motors to revolve the lenses.

During the storms and in time of fog, light keepers must also operate the fog signals. The powerful blasts are produced by compressed air or electricity. As early as 1719 a fog cannon was located at Boston Lighthouse and discharged at intervals during thick weather. In 1851 a compressed air trumpet was experimented with, the power being furnished by a horse-driven compressor. In 1869 the first steam whistle was added to lighthouse equipment. Today, of course, practically all lighthouses have their distinctive fog signal with an identifying characteristic.

In 1921, scientific developments permitted the establishment of the radio beacon system. This system made it possible for vessels equipped with a simple direction finder to take bearings on shore stations under any conditions of weather or visibility. The radiobeacon in thick weather sends out a code letter on an assigned frequency which is repeated for one minute in each three. Usually two other adjacent stations on the same frequency transmit their respective distinctive calls for one minute in each of the other two minutes. On a single frequency, therefore, the mariner usually should be able to secure three lines of bearing which would give him a dependable fix. During clear weather each group of stations usually operates 10 minutes of each half hour.

The United States Coast Guard today maintains over 36,000 aids to marine navigation. The greater number of these are lighthouses, automatic lights and buoys. There are also about 180 radiobeacons, 28 lightship stations and 2,000 fog signals.

NORTH CAROLINA

Menhaden Fleet Off Southport

A number of the Morehead City and Beaufort menhaden boats were working off Southport early in May. The larger Southport boats, *Plaxco, Brunswick, Nickerson* and *Gifford,* were making good catches at that time and the *John M. Morehead* and *W. P. Anderson,* up for overhaul, were about ready to rejoin the fleet.

Boats of the Brunswick Navigation Co. fleet, Southport, had good fishing May 30 when they went out at daybreak and returned to the factory with loads by midmorning, each with around 300,000 fish. Morehead City boats were making their catches equally as fast and returning to homeport to unload.

Brunswick Navigation Co. is able to handle one load per boat a day but, with new machinery installed during the Winter and enlarged facilities now nearing completion, will soon double its previous production capacity.

"Albatross" to Complete Survey

The *Albatross III,* Fish & Wildlife Service research vessel, was due to finish its survey of North Carolina coastal waters early this month. Her investigation was to include determination of the distribution of temperatures, salinities and densities between Capes Hatteras and Fear from the coast out to the Gulf Stream, determination of distribution of eggs and larvae of shrimp and fish between Capes Lookout and Fear, and the gathering of bottom hydrographical data.

Institute of Fisheries Research personnel participating in the survey included Eugene Roelofs, John Wegner, I. E. Gray and W. H. Sutcliffe.

"National Geographic" Features Menhaden

North Carolina's menhaden fishery is featured in an illustrated article in the June issue of *National Geographic Magazine,* entitled "Menhaden—Uncle Sam's Top Commercial Fish".

To get local color and firsthand material on this subject, the writer sailed out of Morehead City on the *W. A. Mace,* of Beaufort Fisheries Inc., witnessed a set and saw the catch move, by conveyor belt, through a reducing plant until it became the menhaden oil and meal of trade.

Last year, the article reports, the industry processed more than 1,417,000,000 menhaden, exceeding 950,000,000 pounds in total weight. This is more than twice the poundage of the second ranking fish, the salmon, and about four times the total of menhaden's nearest rival in the Atlantic fisheries, the rosefish, or sea perch.

Extract Oil from Whale

A 28′ whale which washed ashore at Ocracoke April 30, the first to founder there in a number of years, had been completely rendered by the middle of May. Islanders began extracting oil on the beach May 9 after cutting the whale into pieces, collecting driftwood and setting up huge iron try pots.

Fisheries Committee Amends Rule

At Morehead City early in May, the Board of Commercial Fisheries Committee amended a rule to make it lawful to fish with haul nets, dip nets and stake gill nets, or fyke nets and fish traps without wings or hedging from the main waters of the Yadkin River from the South Carolina line to Blewett Falls, except between June 1 and December 1. The same ruling also applies to Roanoke River below Highway No. 258 bridge near Scotland Neck during the regular shad season and provides that no nets or traps may be set within 50 yards of either side of the mouth of any tributary emptying into either river and that such traps or fyke nets must be set along the banks and without wings or hedging. Another provision is that no wire traps shall be set in any commercial waters of the State not covered by this rule.

King Whiting Tops Landings

Fresh fish production in the Atlantic-Beaufort-Morehead City area totalled 239,600 lbs. in April, according to the U. S. Fish & Wildlife Service, which was 5,200 lbs. more than the preceeding month. King whiting led all other species with 125,000 lbs. followed by gray sea trout, 49,000 lbs. and croaker, 33,500 lbs. This year's landings through April total 1,498,400 lbs.

SOUTH CAROLINA

Oyster Shell Planting Underway

Some 20 boats and barges went out May 10 to make the first oyster shell plantings of an estimated 1,000,000 bushels in South Carolina waters. The L. P. Maggioni Co., which has been operating in the Beaufort area since 1870 and is one of the largest handlers of seafood in the State, planted about 15,000 bushels of shells on the first day.

Operations were to be conducted this year along experimental lines recommended by G. Robert Lunz, director of the Bears Bluff Laboratories. This includes planting shells in staked off areas which Lunz plans to revisit after some months for further study and compilation of data.

Under South Carolina laws, oystermen leasing bottoms from the State must replant 100 bushels of shell for each acre of bottom leased, and the total must be at least one-third of the number of bushels harvested.

Some 46 operators in four coastal counties are licensed by the State Board of Fisheries. Beaufort County, with 20 operators, and Charleston, with 19, lead the list. Georgetown has five operators, and Colleton County two.

While returns for April are not complete, present records indicate that oystermen harvested the largest crop of oysters on record during the season ending that month.

Advisory Group for Fisheries Board

South Carolina's State Board of Fisheries has appointed a marine fisheries advisory board, composed of commercial fish, shrimp and oyster leaders, as well as personnel of the Bears Bluff laboratories. Quarterly joint meetings of the groups are planned, according to Andrew H. DuPre, chairman of the fisheries board.

DuPre said appointment of the advisory board stemmed from proposals that commercial fishermen be allowed to serve on the fisheries board, an impossibility under existing law. Members of the advisory group are Sterling G. Harris, Beaufort; Rene Cathou, Georgetown; Hugh McGinn, Little River; Keith Powers, Yonges Island; Walter Shaffer, Charleston; Harold Fripp, Walterboro; Edward Eugene Sheppard, Beaufort; and J. S. Graves, Jr., Bluffton.

Although this group represents a cross section of the industry, members of conservation groups and legislators from coastal counties will be invited to attend meetings. The advisory group will recommend policy, possible legislation and other matters pertinent to the industry and the activities of the board.

Striped Bass Tagged

Over 200 striped bass have been tagged in the Santee-Cooper River system by the U. S. Fish & Wildlife Service. This experiment, through cooperative arrangement with the chief of the inland fisheries of South Carolina, will attempt to determine the migratory habits of these fish, which spend considerable time at sea, and to what extent they ascend through the ship canal to the upper reaches of the reservoir.

"Charlotte" Explodes, Sinks

The shrimp trawler *Charlotte*, owned by Mrs. Ellen H. Miller of McClellanville, exploded and sank at Fulton Dock, Charlestown, last month. Two crew members were hospitalized and a third only slightly burned. The loss was attributed to the ignition of gasoline fumes in the bilges.

Shrimp Season Opens

The South Carolina shrimping season inside the three-mile limit opened June 1 with no commercial licenses available. This situation caused concern in the industry, but some operators started fishing, and were joined by out-of-State boats. Licenses had not been made available since no law to set fees had been passed at this session of the legislature. However, legislation was in the making on the opening day of the season.

It is estimated by some operators that there are about twice as many boats on hand this year as at the start of the season last year. Catches have been small to fair and fishermen believe it will be July before the shrimp move in.

Texas Shrimpers Tied Up By Foul Weather

The Texas shrimping fleet was at a near standstill in late May as high southeast winds whipped up the Gulf waters, driving the boats into port.

The unfavorable weather followed the most promising prospects of a shrimp run encountered on the upper coast all Spring. During the first two weeks of the month, good catches were landed at Port Isabel, Corpus Christi, Aransas Pass, and Rockport.

Flooded rivers emptying into inland bays menaced fishing on the coast as salt water was freshened to such an extent that the larger fish left the bays for deeper water in the Gulf. Fishermen were hopeful that the condition would right itself by early June.

Haskell Joins Rockport Laboratory Staff

William L. Haskell, graduate of the University of Oregon, has joined the staff of biologists at the Rockport Marine Laboratory. His work will be concerned chiefly with the study of oysters on the Texas Coast. He formerly was employed by the U. S. Fish & Wildlife Service in Alaska and Oklahoma, and has also done work on the Yakina oyster beds off the Oregon Coast.

Dr. Gordon Gunter has ended an eight-months' assignment as visiting professor at the Scripp-Howard Institute of Marine Technology at San Francisco and has resumed his duties as marine biologist with the state department of Marine Research Laboratories at Port Aransas.

Development of Tuna Fishery Suggested

J. L. Baughman, chief biologist at the Rockport Marine Laboratory, has pointed out to Texas fishermen the possibility of developing a tuna fishery in the State. Many schools of tuna have been sighted by commercial shrimpers from time to time, but so far nothing has been done along this line.

Shrimp Production Up

Shrimp production in April at the principal ports of landing along the Texas Coast showed a large gain, totalling 4,150 bbls., double the previous month's production of 2,000 bbls. and nearly twice that of April 1948, which was 2,400 bbls. During the first four months this year, 10,400 bbls. were landed compared to 5,740 for the same period in 1948.

The oyster yield has improved considerably over that of last year but in April only 1,650 bbls. were reported as against 4,000 bbls. in March. Total production for the first four months is 8,500 bbls. compared to 1,800 a year ago.

This year's finfish catch through April is only slightly ahead of 1948 with 368,380 lbs. and landings for the month dropped to 44,000 lbs. compared to well over 100,000 lbs. in the previous month as well as in April 1948.

James F. Jackson

James F. Jackson, 79-year-old retired fisherman of Aransas Pass, died recently following an extended illness.

New Brunswick Report

By C. A. Dixon

Sardine Herring Scarce

As May faded from the picture, the Southern New Brunswick sardine herring fishing industry remained in a slump due to the extreme scarcity of fish. Only a few very small catches, from two to ten hogsheads per weir, were made by the fishermen during the month.

There is considerable concern over the failure of sardine herring fishing so far in 1949, and some think that overfishing of small herring has caused the scarcity. During the last two or three years in particular, an enormous quantity of small fish have been caught and canned the year round. While they make the best sardines obtainable for certain trade demands, the wisdom of mass production of the brit is questioned.

With the advent of June, sardine canning was confined chiefly to one packing plant, Connors Bros., Ltd. of Black's Harbor, N. B., which is the largest single fish cannery in New Brunswick and the largest sardine canning company in the world. One or two of the smaller plants operated on broken time during May. At present a subnormal pack is indicated for 1949.

Lobstering Begins

The lobster season opened during May in Southern New Brunswick, and catches showed a gradual improvement as the month advanced. However, despite the fact that more traps were set in a number of areas, it is believed that production has not measured up to normal—at least in some sections of Charlotte and St. John Counties. The weather has been favorable for lobstering, and no heavy storms caused damage to gear.

Lobsters do not crawl inshore until warm weather sets in, and June is the best month for taking them in the Passamaquoddy Bay region. Some feel that the lobster season should be during June and July, instead of May and part of June, as it is useless to set traps during early May in some areas.

Smoked Herring

Grand Manan smoked herring producers obtained good quantities of herring from the Shediac area of New Brunswick in May at $15.00 a hogshead. The fish were seined at Shediac, trucked across the province to Black's Harbor, and transported from that coastal town in boats to Grand Harbor, Seal Cove, White Head and other points where smoked fish are put up.

There was a steady influx of herring for several days in succession, and the waterfronts of the Grand Manan villages presented a busy appearance while the run of fish was on. At Seal Cove alone, ten smoked herring plants handled the Shediac fish, and laborers had to be imported from other villages in order to take care of the stringing.

Government Stops Buying Canned Herring

Since the announcement made in May by the Canadian Federal Government that it would buy no more canned herring, the reaction to the same has been one of consternation among the New Brunswick canners, especially those on the north and eastern part of the province, although a number will be adversely affected everywhere in New Brunswick and in the Maritimes in general. The order does not apply to the sardine canning business.

Fisheries Minister R. W. Mayhew followed the announcement with a statement that the Government is ready to provide immediate assistance to those affected by means of establishing two reduction plants and a cold storage plant with bait freezing facilities. He claims these will provide a long-range solution to many of the local problems, and will aid further development and expansion of the herring fishery.

Meanwhile, as protests were being sent to Ottawa, some of the fishermen had to dump quantities of herring because of inability to dispose of the fish in former markets.

Vineyard Bailings

By J. C. Allen

If you accept all the scientific claims made by the Russians, it seems most likely that they have gained control of the weather and are all set to make America suffer. Anyhow, local lads in this neck of ocean are plumb dissatisfied with what has been bailed out to them up to date, for, with the after end of May in sight and passing rapidly to leeward, there hasn't been even a touch of Summer yet!

The rain has not fallen alike on the just and unjust, and neither has the wind blown without bias. The effect on humanity and fish has been even worse than might have been expected, and there isn't a darned thing that anyone can do about it.

Taking the month full and by, the heft of the luck has been a continuation of that which prevailed through the Winter. It has been largely rotten.

Scup Running

The scup ran early to east and west of us, and the lads who use the floating gear, or who have shelter from easterlies, didn't do so badly about getting their equipment overboard. But our poor cusses tried to drive spiles every day and got blown out of water seven days a week and oftener. Even now, as this report is written, there are two sets of gear in Buzzards Bay that aren't in simply because there haven't been enough moderate hours in six weeks to complete the job.

As for the fish, it's hard to say just what is going on. On the basis of calculations which have been made through the years, it appears probable that our traps missed the first and probably the second run of Spring scup. This seems likely because the Rhode Island gear to west'erd of us picked up a good cut of 'em at the proper time, and the size of the fish and their color indicated that they were the traditional Spring run. As of this date, the third run has hit that gear, the opening of the early Summer run, as it seems.

On the other hand, our draggers, who usually get afoul of 'em as soon as anyone, didn't pick up a scup until nearly the last of the month, so it's not easy to figure whether we would have had any fishing or not. Our traps got their first mackerel in quantity, late, but this could have been accounted for in part by the heavy run of dogfish. Vineyard trap-fishermen are never discouraged by a run of dogfish because they can sell tons of 'em every Spring for a fair price.

Flounders More Plentiful

Ordinary dragging, inshore and off, has not been marked for any particular change through the month. The Winter fish have held on about as usual, and there have been no great amount of Summer fish to show up. It seems, from a local viewpoint, that there are fewer haddock this Spring, as compared with a year ago, and fewer yellowtails. On the other hand, there are somewhat more flounders, and for some months, the vessels large enough to make the trip, have run offshore and found quite good fluke fishing.

No changes appear in the sea-scalloping situation. The supply seems to stand up as well as might be expected with several hundred frantic sea-skimmers scraping the bottom.

Lobstermen Start Out Moderately

Lobstermen started out moderately, and have continued about that way. There are some indications that lobstering might be better this year than last, but one of those cockeyed cycles has rolled around, and there are more men at the business than usual.

Incidentally, local prophets predict a shortage of lobsters during the Summer. Probably there will be plenty of frozen meat, though. Carloads and trainloads and vessel-loads of Eastern lobster have been showing up far ahead of schedule. The price of chicken lobster is the lowest in years because of this condition. Nobody seems to know why the down-Easters are not pounding their lobsters as usual, although there have been some shrewd guesses made.

Where-to-Buy Directory

Companies whose names are starred (*) have display advertisements in this issue; see Index to Advertisers for page numbers

ANCHORS

*R. S. Danforth, 2121 Allston Way, Berkeley, Calif.
*The Maxim Silencer Co., 65 Homestead Ave., Hartford, Conn.
*Northill Co., Inc., Los Angeles 45, Calif.

BATTERIES, STORAGE

"Exide": Electric Storage Battery Co., Allegheny Ave. and 19th St., Philadelphia, Pa.
*Surrette Storage Battery Co., Salem, Mass.
*Willard Storage Battery Co., Cleveland, Ohio.

CAN MANUFACTURERS

Continental Can Co., 100 E. 42nd St., New York, N. Y.

CLUTCHES

*Kinney Manufacturing Co., 5341 Washington St., Boston, Mass.

COLD STORAGE

Quaker City Cold Storage Co., Philadelphia, Pa.

COMPASSES

*Kelvin & Wilfrid O. White Co., 90 State St., Boston, Mass.
*E. S. Ritchie & Sons, Inc., 112 Cypress St., Brookline, Mass.
*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

CORDAGE MANUFACTURERS

American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.
*Columbian Rope Co., Auburn, N. Y.
*The Edwin H. Fitler Co., Philadelphia 24, Pa.
*New Bedford Cordage Co., 233 Broadway, New York, N. Y.

DEPTH FINDERS

*Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.
Bludworth Marine, 100 Gold St., New York 7, N. Y.
*Kaar Engineering Co., Palo Alto, Calif.
*Pilot Marine Corp., 39 Broadway, New York 6, N. Y.
Submarine Signal Co., 160 State St., Boston, Mass.

DIESEL AUXILIARY SETS

*Detroit Diesel Engine Division, General Motors Corp., Series 71 Marine Diesel, 13400 W Outer Drive, Detroit 23, Michigan.
*Lister-Blackstone Inc., 420 Lexington Ave., New York 17, N. Y.
D. W. Onan & Sons, Inc., Minneapolis 5, Minn.
Universal Motor Co,. 436 Universal Drive, Oshkosh, Wis.
Witte Engine Works, Kansas City 3, Mo.

ELECTRIC MOTORS

The Imperial Electric Co., Akron, Ohio.

ENGINE CONTROLS

Sperry Products, Inc., Hoboken 1, N. J.
*Westinghouse Air Brake Co., Wilmerding, Pa.

ENGINE MANUFACTURERS

Diesel Engines

Atlas Imperial Diesel Engine Co., Oakland, Calif.
The Buda Co., Harvey, Ill.
Caterpillar Tractor Co., Peoria, Ill.
Cooper-Bessemer Corp., Mount Vernon, O.
*Cummins Engine Co., Columbus, Ind.
*Detroit Diesel Engine Division, General Motors Corp., Series 71 Marine Diesel, 13400 W. Outer Drive, Detroit 23, Michigan.
*Enterprise Engine & Foundry Co., 18th and Florida Sts., San Francisco 10, Calif.
Fairbanks, Morse & Co., Chicago, Ill.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
Kermath Manufacturing Co., 5896 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
*Lister-Blackstone Inc., 420 Lexington Ave., New York 17, N. Y.
*Murphy Diesel Co., 5317 West Burnham St., Milwaukee, Wis.
*Nordberg Mfg. Co., Milwaukee, Wis.
*The Palmer Bros. Engine Corp., River Road, Cos Cob, Conn.
R. H. Sheppard Co., Inc., 30 Middle St., Hanover, Pa.
*Wolverine Motor Works Inc., 1 Union Ave., Bridgeport, Conn.
Worthington Pump & Machinery Corp., 421 Worthington Ave., Harrison, N. J.

Gasoline Engines

Atlas Imperial Diesel Engine Co., Oakland, Calif.
*Chris-Craft, Marine Engine Div., Algonac, Mich.
Chrysler Corp., 12211 East Jefferson, Detroit, Mich.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
Kermath Manufacturing Co., 5896 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
*Nordberg Mfg. Co., Milwaukee, Wis.
Packard Motor Car Co., 1580 E. Grand Blvd., Detroit 32, Mich.
*The Palmer Bros. Engine Corp., River Road, Cos Cob, Conn.
Red Wing Motor Co., Red Wing, Minn.
Universal Motor Co., 436 Universal Drive, Oshkosh, Wis.

ENGINE DEALERS

*Cummins Diesel Engines, Inc., 209-13 N. 22nd St., Philadelphia 3, Pa.
*Cummins Diesel Engines of New England, Inc., 18 Hurley St., Cambridge 41, Mass.
*Cummins Diesel Sales and Service of New York, Inc., 1030-1044 Leggett Ave., New York 55, N. Y.
*Diesel Marine & Equipment Corp., 342 Madison Ave., New York 17, N. Y.
*The Edson Corp., 49 D St., South Boston, Mass.
Harbor Supply Oil Co., 39 Portland Pier, Portland, Me.
Walter H. Moreton Corp., 9 Commercial Ave., Cambridge, Mass.
*H. O. Penn Machinery Co., Inc., East River and 140th St., New York, N. Y.
*Perkins-Eaton Machinery Co., 376 Dorchester Ave., South Boston 27, Mass.

EXHAUST SILENCERS

John T. Love Welding Co., Walen's Wharf, Wharf St., Gloucester, Mass.
*The Maxim Silencer Co., 65 Homestead Ave., Hartford, Conn.

FISHING GEAR

*Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston, Mass.

FISH MEAL MACHINERY

Enterprise Engine & Foundry Co., Process Machinery Div., 18th and Florida Sts., San Francisco, Calif.

FLOAT CLAMPS

Fargo Mfg. Co., Inc., 937 Main St., Poughkeepsie, N. Y.

FLOATS

New England Fishing Gear Co., 301 Eastern Ave., Chelsea, Mass.
J. H. Shepherd Son & Co., 1820 East Ave., Elyria, Ohio.

GENERATORS

The Imperial Electric Co., Akron, Ohio.

HOOKS, FISH

*Bill DeWitt Baits, Hook Mfrs., Auburn, N. Y.
*O. Mustad & Son, Oslo, Norway.
*"Pflueger": Enterprise Mfg. Co., 110 Union St., Akron, Ohio.

ICE BREAKERS

*Gifford-Wood, Hudson, N. Y.
Link-Belt Co., 2410 W. 18th St., Chicago 8, Ill.

LORAN

*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

NETS AND NETTING

*W. A. Augur, Inc., 35 Fulton St., New York, N. Y.
Brownell & Co., Inc., Moodus, Conn.
*R. J. Ederer Co., 540 Orleans St., Chicago, Ill.
The Fish Net & Twine Company, 310-312 Bergen Ave., Jersey City, N. J.
*The Linen Thread Co., Inc., 105 Maplewood Ave., Gloucester, Mass.
Moodus Net & Twine, Moodus, Conn.
New England Fishing Gear Co., 301 Eastern Ave., Chelsea, Mass.
*Sargent, Lord & Co., 42 Portland Pier, Portland, Me.
*A. M. Starr Net Co., East Hampton, Conn.

OIL FILTERS

Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.

OILS

Esso Standard Oil Co., 26 Broadway, New York 4, N. Y.
*Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
Socony-Vacuum Oil Co., Inc., Marine Sales Dept., 26 Broadway, New York 4, N. Y.

PAINTS

*Amercoat Division, P.O. Box 3428, Terminal Annex, Los Angeles 54, Calif.
*Hart and Burns Inc., Riverside, Calif.
International Paint Co., Inc., 21 West St., New York, N. Y.
*Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Tarr & Wonson, Ltd., Gloucester, Mass.

PRESERVATIVES

"Cuprolignum": Robert S. Chase, 195 Marlborough St., Boston 16, Mass. Megary & Co., 16 E. Lexington St., Baltimore 2, Md.
The Teckkote Co., 821 W. Manchester Ave., Inglewood, Calif.
Unexcelled Chemical Corp., 11 Park Place, New York 7, N. Y.

PROPELLERS

*Columbian Bronze Corp., Freeport, N. Y.
*Federal Propellers, Grand Rapids, Mich.
*F. Ferguson & Son, 1132 Clinton St., Hoboken, N. J.
*Hyde Windlass Co., Bath, Me.
Michigan Wheel Co., Grand Rapids, Mich.

PROPELLER SHAFTS

The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

PUMPS

*The Edson Corp., 49 D St., South Boston, Mass.
*Marine Products Co., 515 Lycaste Ave., Detroit 14, Mich.

RADIO DIRECTION FINDERS

Applied Electronics Co., 1246 Folsom St., San Francisco 3, Calif.
Bludworth Marine, 100 Gold St., New York 7, N. Y.
Fisher Research Laboratory, Inc., Palo Alto, Calif.
*Kaar Engineering Co., Palo Alto, Calif.
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Sargent, Lord & Co., 42 Portland Pier, Portland, Me.
Submarine Signal Co., 160 State St., Boston, Mass.

RADIO RECEIVERS

National Company, 61 Sherman St., Malden, Mass.

RADIO TELEPHONES

Applied Electronics Co., 1246 Folsom St., San Francisco 3, Calif.
Fisher Research Laboratory, Inc., Palo Alto, Calif.
*The Harris Co., Portland, Me.
Hudson American Corp., 25 West 43rd St., New York 18, N. Y.
Jefferson-Travis, Inc., 76 Ninth Ave., New York 11, N. Y.
*Kaar Engineering Co., Palo Alto, Calif.
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
*Sargent, Lord & Co., 42 Portland Pier, Portland, Me.

RANGES

*The Maxim Silencer Co., 65 Homestead Ave., Hartford, Conn.
"Shipmate": Stamford Foundry Co., Stamford, Conn.

REVERSE AND REDUCTION GEARS

Snow-Nabstedt Gear Corp., Welden St., Hamden, Conn.
*Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.

RUBBER BOOTS

Beacon Falls Rubber Footwear, Beacon Falls, Conn.

RUBBER CLOTHING

Beacon Falls Rubber Footwear, Beacon Falls, Conn.
J. F. Carter Co., Beverly, Mass.
Hodgman Rubber Co., Framingham, Mass.
H. M. Sawyer & Son Co., East Cambridge, Mass.

RUST PREVENTIVE

Sudbury Laboratory, Box 780, South Sudbury, Mass.

SEAM COMPOUNDS

*Standard Dry Wall Products, Box X, New Eagle, Pa.

SHIPBUILDERS, BOATYARDS

Avondale Marine Ways, Inc., Westwego, La.
Bath Iron Works, Bath, Me.
Bethlehem Steel Co., Shipbuilding Division, Bethlehem, Pa.
Bristol Yacht Building Co., South Bristol, Maine.
Camden Shipbuilding & Marine Railway Co., Camden, Me.
*Delaware Bay Shipbuilding Co., Inc., Leesburg, N. J.
*Diesel Engine Sales Co., Inc., St. Augustine, Fla.
Electric Boat Co., Groton, Conn.
*Liberty Dry Dock, Inc., Foot of Quay St., Brooklyn 22, N. Y.
Luders Marine Construction Co., Stamford, Conn.
Newbert & Wallace, Thomaston, Maine.
*Frank L. Sample, Jr., Inc., Boothbay Harbor, Me.
Southwest Boat Corp., Southwest Harbor, Me.
Webber's Cove Boat Yard, East Blue Hill, Me.

STEERING GEAR

*The Edson Corp., 49-51 D St., South Boston, Mass.
*Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

STERN BEARINGS

*"Goodrich Cutless": Lucian Q. Moffitt, Inc., Akron 8, Ohio.
*Hathaway Machinery Co., New Bedford, Mass.

TRAWLING EQUIPMENT

Bromfield Mfg. Co., Inc., 246-256 Border St., East Boston 28, Mass.
*Hathaway Machinery Co., New Bedford, Mass.
*New England Trawler Equipment Co., 301 Eastern Ave., Chelsea, Mass.

WHISTLES

Cunningham Mfg. Co., 4200 West Marginal Way, Seattle 6, Wash.

WIRE ROPE

*Bethlehem Steel Co., Bethlehem, Pa.
John A. Roebling's Sons Co., Trenton 2, N. J.
*Wickwire Spencer Steel Division, Palmer, Mass.

Sounding-Lead

(Continued from page 9)

would limit the exemption of seasonal operations, such as fish or other aquatic forms of animal or vegetable life to 14 weeks, but authorizes Secretary of Agriculture under certain conditions to grant six additional weeks.

Speaking before the House Subcommittee on agriculture, Charles E. Jackson, general manager of NFI, expressed the fishing industry's sentiments on Secretary of Agriculture Brannan's proposed Farm-Consumer Subsidy plan. He said that the industry is concerned about the plan because it does not see how it will be possible for fisheries to compete with agriculture if the latter is subsidized.

On May 9, the Senate received the Northwest Atlantic Fisheries Treaty from President Truman, and it has been referred to the Committee on Foreign Relations to consider ratification.

ECA PROGRAM—In an about-face buying policy, Great Britain will purchase with ECA funds $2.2 million worth of U. S. canned fish by June 30, and starting July 1 will buy an additional $2.65 million worth with no restriction on species. This follows a partial lifting of ECA restrictions on purchases of canned salmon and tuna. Previously, Britain had made ECA purchases of fish from other countries, but industry pressure on Congress and the clamor of British housewives for canned salmon forced the change of policy. Britain also has agreed to buy $6.5 million worth of Canadian canned salmon beginning with the new Fall pack and a like amount from the United States, if the price is right.

Greece has been allocated $150,000 by ECA to purchase canned fish from the U. S. and possessions during the second quarter 1949, but the authorization restricts her from buying salmon or tuna which never were large import items in that country. With the same restrictions, Belgium-Luxembourg have an allocation of $100,000 for the same period.

As of April 1, under a working agreement covering purchase responsibility, the Office of the Quartermaster General has been designated as the procurement agency for the purchase of food (including fishery products) out of Government-appropriated funds for feeding the civilian populations of Western Germany, Japan, and the Ryukyus. Offers of fishery products and requests for listing as permanent bidders should be submitted by U. S. suppliers to the Quartermaster Purchasing Office (QM), 1819 West Pershing Road, Chicago 9, Ill.

A revised list of commodities exportable under general license GRO has been issued by the Office of International Trade of the Department of Commerce. All edible fish and shellfish and their products are contained in the new list, and do not now require a validated license for exportation to any destination.

Index to Advertisers

Classified Advertising

Rates. $1.00 per line, $5.00 minimum charge. Count 10 words to a line. Closing date, 25th of month preceding date of issue.

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Diesel powered freighter, 63.7′ B.P. x 18.9′ x 6.8′, 54 gross tons, all in good condition, ready to go, $15,000. Draggers: Item LCD-M, 46.7′ x 13′ x 5.5′, built 1924, just reconditioned and in commission, ices 30,000 lbs., Superior Model M.A.R. 110 hp., 3:1 red. gear, $4,500. Item PS-A, 52.2′ x 15.4′ x 6′, rebuilt 1948, 29 tons gross, ices 35,000 lbs., 115 hp. Caterpillar new 1947, full equipment, $11,200. Item D-EB, 52.3′ x 15.6′ x 4.5′, in commission, built 1927, oak and y. pine, 115 hp. rebuilt Caterpillar engine, new 1944, 3:1 red. gear, $16,000. Will carry 300 boxes fish, 100 lbs. each. Also many others ranging from 35′ to 115′—wood and steel. Write for particulars. We now have a large listing of both gasoline and Diesel engines, all sizes. Write us as to your requirements. Knox Marine Exchange, Camden, Me.

BOAT OF THE MONTH

Eastern type dragger, 62′ x 16′6″ x 7′, built Essex, Mass. 1936. Very substantial construction, 200 hp. Hendy Diesel engine installed new 1947. Complete dragging and scalloping equipment. Price $20,000. Complete details on request. Edwin B. Athearn, Marine Broker, Commercial and Pleasure Craft, Woods Hole, Mass. Tel. Falmouth 1715.

DRAGGER "LINDY" FOR SALE

Dragger *Lindy*, 50′ x 15′ x 6′, D13000 Caterpillar, ship-to-shore radio, 25-watt, 2 sets doors, 6 nets, 2 sets dredges, dory, pilothouse aft. Now scalloping. Price—$17,000. George D. Olson, E. Washington St., Toms River, N. J.

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77′ long o.a., 15′ beam o.a., 8′ deep o.a., draft 5′. Two 40 hp. heavy-duty Lathrop marine engines, radiotelephone, radio direction finder, capacity 30,000 lbs., accommodations for 7. Price $7,500. Raymond R. Smith, 1 Wilson Drive, Cape May, N. J.

CROAKER NETS FOR SALE

34 croaker nets, 300′ long, 12′ deep, 3¾″ to 4½″ mesh, 9 thread medium laid cotton twine, double cork line, double lead line, price 15c per foot in 50 fathom shots. Raymond R. Smith, 1 Wilson Drive, Cape May, N. J.

A-6 100 hp

HR-4 110 hp

H-6 150 hp

HR-6 165 hp

HS-6 200 hp

NH-6 200 hp

HRS-6 225 hp

L-6 250 hp

NHS-6 275 hp

NHRS-6 300 hp

NVH-12 400 hp

NVHS-12 550 hp

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CUMMINS DIESEL ENGINES, INC......209-13 N. 22nd St., Philadelphia 3, Pa., Tel. RI. 6-4460
Branches: 2nd and Orange Sts., Mount Carmel, Pa., Tel. 1261; 6501 Hamilton Ave., Pittsburgh 6, Pa., Tel. Montrose 9784; Light and York Sts., Baltimore, Maryland, Tel. South 1281

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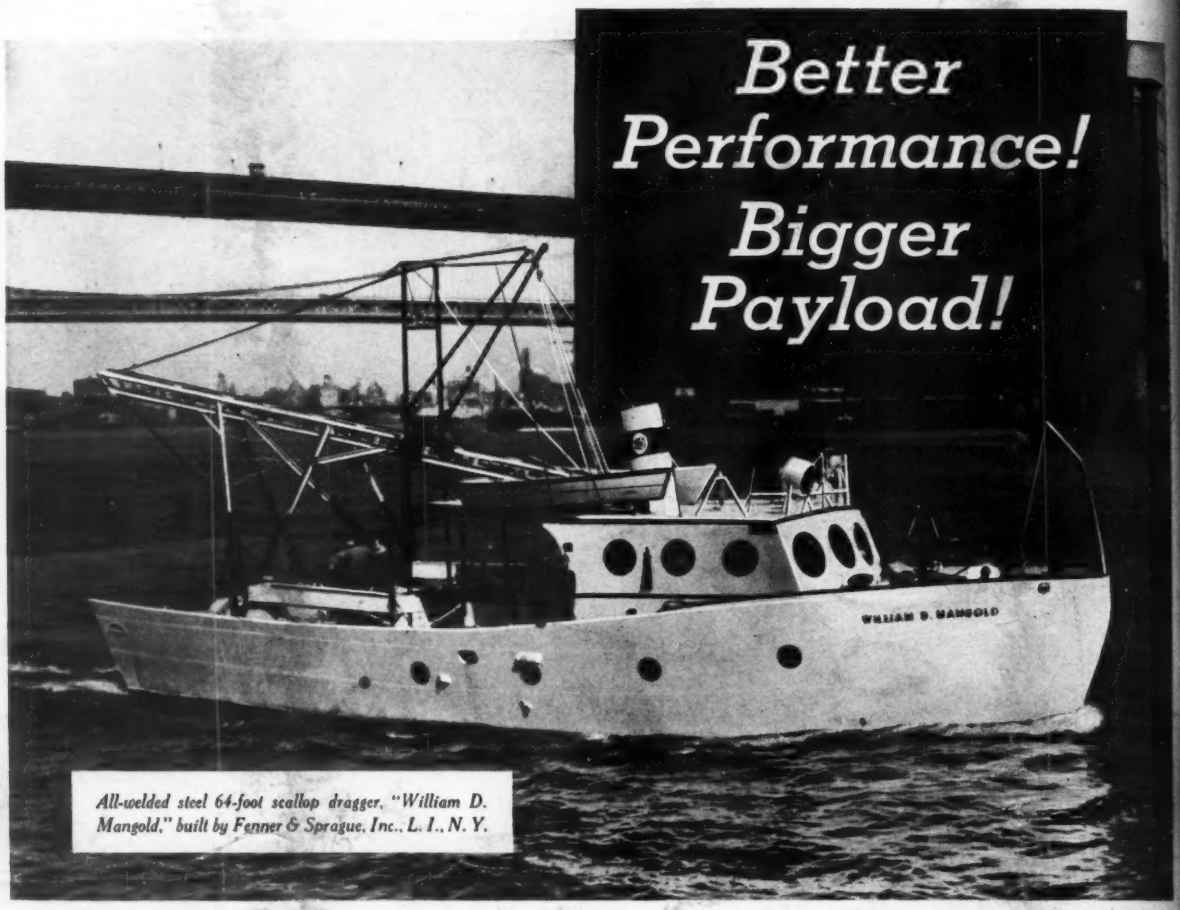

All-welded steel 64-foot scallop dragger, "William D. Mangold," built by Fenner & Sprague, Inc., L. I., N. Y.

SCALLOP DRAGGERS like the "William D. Mangold" need maximum power—maximum cargo space to pay off. That's why she depends upon a General Motors Series 71 Diesel "twin" for power while dragging two 11-foot scallop dredges in 20 to 30 fathoms of the Atlantic between Cape Cod and Cape May.

GM Diesels are 2-cycle—with power at every downstroke of the piston. Thus, they pack more power with less bulk than other Diesel engines. Their simplified design gives quicker starting and smoother operation with greater economy.

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